

1st Hepatology Research Awards

—— Abstract Book ——

PSH2023

FREQUENCY AND ASSOCIATED FACTORS OF INSULIN RESISTANCE AMONG NON-DIABETIC PATIENTS WITH NON-ALCOHOLIC FATTY LIVER DISEASE USING HOMA-IR: AN EXPERIENCE OF A TERTIARY CARE HOSPITAL IN KARACHI

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OBJECTIVE

The current study aims to determine the frequency and associated factors of insulin resistance among non-diabetic patients with NAFLD using HOMA-IR.

DESIGN

The current study's methodology employed a cross-sectional approach.

PLACE & DURATION OF STUDY

In this study, the prevalence of IR in a total of 160 NAFLD patients was examined at Department of Gastroenterology, Liaquat National Hospital & Medical College, Karachi. 6 months after acquiring from Hospital Ethics Committee.

METHODOLOGY

The current study examined the prevalence of IR in 160 NAFLD patients at Liaquat National Hospital & Medical College, Karachi. The Department of Gastroenterology conducted a cross-sectional methodology, examining vital signs and anthropometric measurements. Patients were identified as suspects of NAFLD based on self-history and symptoms. Ultrasonography and fibro-scan were used to diagnose NAFLD. Laboratory testing was suggested and managed as necessary after confirmation. The principal investigator recorded demographics, anthropometric measurements, and findings in a pre-designed proformas.

RESULTS

There were 160 participants in the research, 90 of them men and 70 of them women, with ages ranging from 1 to 60. Most of them were married, and they worked a variety of jobs. The participants' educational backgrounds ranged from illiteracy to college and MBA degrees. Patients with HOMA-IR revealed significant changes compared to smokers, but those with dyslipidemia, ischemic heart disease, cardiovascular disease, asthma, and osteoarthritis had negligible p-values.

CONCLUSION

The study involved 160 participants aged 1-30 years, with diverse occupations and education levels. Hypertension patients with dyslipidemia, ischemic heart disease, asthma, and osteoarthritis had insignificant p-values, while those with HOMA-IR showed significant differences.

KEYWORDS

Non-alcoholic fatty liver disease, Insulin resistance, metabolic syndrome.

FREQUENCY OF COGNITIVE IMPAIRMENT IN PATIENTS WITH CHRONIC HEPATITIS C USING MONTREAL COGNITIVE ASSESSMENT AT A TERTIARY CARE CENTER AND ITS CORRELATION WITH CHILD TURCOTTE PUGH (CTP) SCORE

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INTRODUCTION

It is estimated that approximately 100 million persons have been infected with HCV and it accounts for 700,000 deaths per year. Not only in cirrhosis but Chronic hepatitis C (CHC) patients also experienced fatigue, depressive symptoms and cognitive impairment (CI). HCV is detected in CSF and brain tissue raising the possibility of its extra hepatic replication and effect on neurocognitive functions. Cognitive impairment was found in around 15-30% patients of CHC. CHC patients already have reduced health related quality of life and cognitive impairment will even make it worse.

OBJECTIVE

The aim of this study is to determine frequency of cognitive impairment in patients with chronic hepatitis C patients using Montreal Cognitive Assessment (MoCA) attending medical clinics of a tertiary care unit and to correlate cognitive impairment in these patients with Child Turcotte Pugh (CTP) Score.

METHODOLOGY

This was a prospective, cross sectional study, conducted over a period of 06 months (from January 2023 to June 2023). All patients with hepatitis C presented at Dr. Ruth KM Pfau Civil Hospital Karachi fulfilling the inclusion criteria were included. Baseline characteristics and demographic data of each patient was collected on pre-designed proforma. Montreal Cognitive Assessment was used to assess the cognitive impairment in HCV patients. Patients with score of 18-25 were classified as having mild cognitive impairment, 10-17 as moderate cognitive impairment and less than 10 as severe cognitive impairment. Blood was withdrawn for testing for bilirubin, albumin, and INR to calculate CTP score.

RESULTS

Total 78 consecutive patients were enrolled in the study. Mean age of patients was 43.6 ± 12.2 . Males were 46 (59%) and females were 32 (41%). Overall, 14 (17.9%) patients had normal cognitive function, 22 (28.2%) patients had mild, 26 (33.3%) patients had moderate and 16 (20.5%) patients had severe cognitive impairment. Normal cognitive function was found in 11 patients of CTP class A, 3 in CTP class B and none in CTP class C while none of the patient in CTP class A had severe cognitive impairment followed by 4 and 12 patients in CTP class B & C had severe cognitive impairment.

CONCLUSION

We concluded from our study that majority of the patients having HCV associated cognitive impairment were males, making it urgent to treat them as they are exposed more to outside world. Similarly more patients in CTP class C had severe cognitive impairment attributable to poor quality of life. So actions are needed for early detection and treatment of HCV for better health outcomes.

KEYWORDS

Cognitive Impairment, Hepatitis C, Montreal Cognitive Assessment

ASSOCIATION OF HELICOBACTER PYLORI INFECTION WITH LIVER CIRRHOSIS AMONG PATIENTS PRESENTING IN A TERTIARY CARE HOSPITAL OF LAHORE, PAKISTAN

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INTRODUCTION

Helicobacter pylori infection is highly prevalent, especially in low socioeconomic strata of developing countries. It is responsible for gastroduodenal erosions and ulcers and its gastric inflammatory changes directly or indirectly affect liver function.

OBJECTIVE

The objective of this study was to determine the association of helicobacter pylori infection with liver cirrhosis among patients presenting in a tertiary care hospital of Lahore, Pakistan.

METHODOLOGY

This was a case control study conducted in department of Medicine, Mayo Hospital, and Lahore Pakistan for six months. A total of 130 patients were recruited through non-probability consecutive sampling technique. After informed consent 65 cases of liver cirrhosis (proven on ultrasonography) and 65 healthy volunteers as controls were taken. A stool sample for Helicobacter Pylori detection was taken from both cases and controls following standard sterile collection procedure. Sample was then sent to the pathology laboratory for detection of H pylori antigen. H. pylori antigen RESULTS were noted in the proformas. Data was entered and analyzed using SPSS version 17.0. Odds ratio was calculated to determine the association of helicobacter pylori infection with liver cirrhosis taking odds ratio of >1 as statistically significant.

RESULTS

The minimum age of patients was 20 years and maximum age was 70 years with mean and standard deviation of the age 44.32 ± 13.72 years. There were 66 (50.8%) males and 64(49.2%) were females. Out of 65 cases, helicobacter pylori infection was found in 48(73.85%) while in 65 controls, helicobacter pylori infection was found in 29(44.62%) patients. Presence of helicobacter pylori was significantly associated with liver cirrhosis as odds ratio=3.51 and p-value = 0.001.

CONCLUSION

Helicobacter pylori infection was significantly associated with liver cirrhosis. Hence early detection and consequent eradication of H pylori infection may be helpful in reducing the severity of complications.

KEYWORDS

Helicobacter Pylori Infection, Liver Cirrhosis, Association, Stool antigen

EARLY HOSPITAL RE-ADMISSIONS IN PATIENTS WITH CIRRHOSIS: A RETROSPECTIVE REVIEW OF CAUSES AND PREDICTIVE FACTORS

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INTRODUCTION

Hospital re admissions not only put financial burden on patients and their families but employ significant amount of healthcare resources, physician consultations and economic as well as social burden on the society. Re admissions usually RESULTS from relapsing nature of the underlying disease or its complications.

OBJECTIVE

We aimed to evaluate the causes and predictive factors in our population to avoid early re admissions.

METHODOLOGY

This is a retrospective descriptive cross-sectional study conducted at Gastroenterology department, Aga Khan university hospital Karachi, Pakistan in which we have reviewed the records of patients admitted from 1st October 2020 to 31st Dec 2020 and early re admissions of patients within 30 days. Data was collected from the patient's record and hospital database.

RESULTS

From the total admissions of 124 patients, 36 patients got readmitted within 30 days of their index admission. Mean age of the patients was 55.2(\pm 6.54). Among the 124 patients, 67(54%) were male and 57(46%) were females. The most common etiology of cirrhosis was hepatitis C i.e. 57(46%) followed by NAFLD 43(34.7%) and hepatitis B 18(14.5%). The cause of admission, Child Pugh score and MELD-Na on index and readmission is shown in Table 1. Urinary tract infection is found to be the most common source of infection in index admission as well as in readmission. Patients with higher MELD-Na and Child Pugh score B and C were found be the predictive factors for re admissions.

CONCLUSION

We have concluded that high Child Pugh and Meld-Na was seen in patients who got readmitted. Sepsis due to urinary tract infections, upper and lower respiratory tract infections were known causes of re admissions. Variceal bleed, ascites and encephalopathy were the most complications that led to higher readmission rates. There is a need of improvement in the management of sepsis and complications of portal hypertension especially in patients with poor prognostic markers like higher Child Pugh and Meld-Na score and the need for transplant evaluation in such patients.

KEYWORDS

Early re admissions, cirrhosis, predictive factors

LEVEL OF AWARENESS AND KNOWLEDGE OF HEPATITIS B POST-EXPOSURE PROPHYLAXIS AMONG HEALTH CARE PROVIDERS

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INTRODUCTION

There is an increased occupational health risk of acquiring hepatitis B infection among health care providers because of the high exposure and handling of hepatitis B patients. This elevated risk can be controlled with the help of hepatitis B post-exposure prophylaxis (PEP). There are limited data regarding the awareness of health carers about hepatitis B PEP.

OBJECTIVE

This study aimed to determine the level of awareness of Hepatitis B PEP among the health care workers in district Quetta.

METHODOLOGY

The data was collected from the health care providers using a structured questionnaire on the demographic details and questions related to HEP B PEP. Data were analyzed using SPSS version 19.

RESULTS

A total of 196 health care providers (HCPs) participated. Of the 196 HCPs, 174 (88.8%) have heard about hepatitis B PEP before and 22(11.2%) have never heard about it. Among the ones who have heard about PEP, 80(40.8%) mentioned the source was their colleagues. Only 28(14.3%) attended a formal training of hepatitis B PEP. 88(44.9%) thought that hepatitis B is not a part of hepatitis B PEP. 52(26.5%) had a needle prick injury in the last 6 months. 148(74.7%) did not know the route of hepatitis B immunoglobulin (HBIG) and 40(20.4%) thought that HBIG does not provide short-term immunity against hepatitis B infection. 170 (86.7%) believed that their job expose them at the risk of acquiring hepatitis B infection while 26 (13.3%) believed their job is safe.

CONCLUSION

Although many HCPs have heard about hepatitis B PEP, the knowledge was deficient regarding the components of PEP. Only a few HCPs participated in formal training for hepatitis B PEP that further emphasizes the fact that measures should be taken to increase the knowledge of HCPs regarding hepatitis B PEP.

KEYWORDS

Health care providers, hepatitis B, post exposure prophylaxis

CLINICAL, SEROLOGICAL AND HISTOLOGICAL FEATURES OF AUTOIMMUNE LIVER DISEASES “A CASE SERIES”

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INTRODUCTION

Autoimmune liver disease (ALD) is a rare spectrum of disease comprising of autoimmune hepatitis (AIH), primary biliary cirrhosis (PBC), primary sclerosing cholangitis (PSC) and overlap syndrome. AIH is characterized by lymphoplasmacytic interface hepatitis, hypergammaglobulinemia and positive autoantibodies (ANA, ASMA and Anti LKM-1). PBC is characterized by positive antimitochondrial antibodies (AMA), portal inflammation and lymphocyte-dominated destruction of the intrahepatic bile ducts leading to cirrhosis. PSC is a chronic inflammatory disease of the biliary tract leading to cholestasis, liver cirrhosis and cholangiocarcinoma, usually associated with inflammatory bowel disease. The prevalence of AIH varies widely among different demographics. It varies from 11.6 to 16.9 cases per 100,000 persons in Europe while in Japan it is only 0.08 to 0.015 cases per 100,000 persons. There is no population based data on the incidence or prevalence of AIH in Pakistan.

OBJECTIVE

To evaluate the clinical, serological and histological features in patients presenting with autoimmune liver diseases in a tertiary care hospital in Karachi, Pakistan.

METHODS

A cross-sectional case series of 31 patients which were enrolled in study from January 2017 till date presenting at Jinnah Postgraduate Medical Center, Karachi. Demographic and clinical data including liver function tests, clotting profile, gamma globulin levels, autoimmune serology and liver histology were recorded on designed proforma.

RESULTS

Mean age of patients was 28.19 ± 8.6 years. Females were 23 (74.2%) and males were 8 (25.8%). Most common symptom was fatigue (96.8%), followed by arthralgia (77.4%), anorexia and jaundice (61.3%). Type I AIH was present in 19 (61.3%), Type II AIH in 11 (35.5%) and AIH/PBC overlap in 1 (3.2%) patient respectively, however, no discrete case of PSC and PBC was reported. ANA was positive in 19 (61.3%) patients, ASMA in 7 (22.6%), anti LKM-1 in 10 (32.3%) and AMA in 1 (3.2%) patient respectively. Immunoglobulin G level was raised in all patients with mean of 1672 ± 530 . Liver histology showed lymphoplasmacytic interface hepatitis in 19 (61.3%) patients and lobular hepatitis with centrilobular necrosis in 11 (35.5%) patients respectively. Steroid and azathioprine was given in 25 (80.6%) patients while 4 (12.9%) patients received only steroids and 2 (6.5%) patients did not receive any treatment. Remission was assessed by clinical and biochemical improvement. Remission was achieved in 20 (64.5%) patients.

CONCLUSION

In summary the most common type of autoimmune hepatitis present in our population is type I Autoimmune hepatitis which was found to be around in 61% of the patients. Autoimmune liver disease can occur at any age, in both sexes with favorable RESULTS on immunosuppression. It can progress to several complications like decompensated liver disease, hepatocellular carcinoma, osteoporosis and dyslipidemia. Liver biopsy should be performed in all cases not only for diagnosis but also for accessing disease severity.

COMPARISON OF SEVERITY OF PANCREATITIS WITH AND WITHOUT DICLOFENAC SODIUM IN POST ERCP PATIENTS

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INTRODUCTION

Post-endoscopic retrograde cholangiopancreatography pancreatitis (PEP) is a serious and lethal complication. Pharmacological prophylaxis with NSAIDs is recommended by some guidelines. NSAIDs have been reported to be effective in preventing PEP in several clinical trials. The use of intrarectal NSAIDs for this purpose has been extensively documented.

OBJECTIVE

To compare the diclofenac sodium intramuscular prophylaxis given with standard treatment in patients having ERCP was compared with standard treatment alone with respect to frequency and severity of pancreatitis within 48 hours after the procedure.

METHODOLOGY

The study enrolled 160 patients with obstructive jaundice with or without pruritus (20-70 years). Each group consisted of 80 patients. A prophylactic dose of 75 mg of diclofenac sodium was administered intramuscularly to Group A in addition to standard treatment, while standard treatment was given to Group B alone. The standard treatment for PEP was antibiotics (Cefoperazone/Sulbactam 2g IV) for both groups. IV dormicum (midazolam) was given to both groups as sedation. All patients were tested for lipase and amylase after the procedure to detect any complications. They were also monitored for abdominal pain at 4 and 24 hours after the procedure.

RESULTS

In patients of Group A (n=80), the mean age was 47.1 years \pm 8.4 SD, whereas in patients in Group B (n=80), the mean age was 47.5 years \pm 7.4 SD. In Group A, 3.8% of patients (n=3/80) developed PEP, while 11% (n=11/80) developed PEP (p=0.025). Intramuscular diclofenac sodium was more efficient at preventing PEP when compared to the control group on standard treatment alone, on all of the following parameters: (1) the proportion of patients that did not develop PEP, (2) the rate of patients that developed PEP, and (3) the average quantity of days that patients were sick. In both groups A and B, the PEP diagnosis was mild and the patients were discharged within 2-3 days of diagnosis. PEP efficacy was not significantly different across age groups or genders in both treatment groups (p>0.05).

CONCLUSION

Diclofenac sodium is significantly more effective than standard treatment alone for intramuscular pancreatitis prophylaxis after ERCP.

KEYWORDS

Diclofenac Sodium, ERCP, Post ERCP Pancreatitis

COMPARISON OF EFFICACY AND SAFETY OF PPAR (PEROXISOME PROLIFERATOR-ACTIVATED RECEPTOR) AGONISTS IN PRIMARY BILIARY CHOLANGITIS: A SYSTEMATIC REVIEW AND METAANALYSIS OF RANDOMIZED CONTROLLED TRIALS

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INTRODUCTION

Primary biliary cholangitis (PBC), an autoimmune liver disease, has the potential to advance to liver cirrhosis and result in fatality. Ursodeoxycholic Acid (UDCA) is the first-line treatment, while Obeticholic Acid (OCA) serves as a second-line option due to moderate UDCA non-responsiveness and cirrhosis-related concerns. Additional therapies are necessary due to recent warnings regarding OCA usage in cirrhotic patients.

OBJECTIVE

This study aimed to evaluate the efficacy and safety of peroxisome proliferator-activated receptor (PPAR) agonists in PBC.

METHODOLOGY

We searched PubMed, Google Scholar, and the Cochrane Library until July 28, 2023. We included all RCTs that studied the efficacy and safety of PPAR agonists in treating PBC. The Primary outcome of interest was Alkaline phosphatase (ALP) while the secondary outcomes were Alanine Transaminase (ALT), Aspartate Aminotransferase (AST), Gamma-Glutamyl Transferase (GGT), Total Bilirubin (Tbil), Triglyceride (Tg) and pruritis. We used a random-effects model to calculate the Risk Ratio (RR) and Standardized Mean Difference (SMD) with 95% CI.

RESULTS

A total of 8 RCTs (n=515) were eligible for the analysis. Pooled data showed beneficial effects of PPAR agonists compared to placebo for ALP (SMD=-2.81, 95% CI = -4.10 to 1.51; $p < 0.0001$, $I^2 = 96\%$), GGT (SMD=-1.29, 95% CI=-2.09 to -0.48; $p=0.002$, $I^2=92\%$), TBil (SMD= -0.77, 95% CI=-1.32 to -0.22; $p= 0.006$, $I^2=86\%$), and Tg (SMD=-0.99, 95% CI=-1.63 to -0.35; $P= 0.003$, $I^2= 83\%$). There was no significant difference between PPAR agonists and placebo for ALT (SMD=-0.93, 95% CI=-1.94 to 0.08; $p=0.07$, $I^2=95\%$), AST (SMD= -0.01, 95% CI=-0.67 to 0.66; $p=0.99$, $I^2=91\%$), and pruritus (RR= 0.77, 95% CI=0.29 to 2.06; $p=0.60$, $I^2=34\%$).

CONCLUSION

Our study found a superior efficacy of PPAR agonists compared to placebo for ALP, GGT, Tbil, and Tg highlighting the potentially beneficial effect of PPAR agonists on liver health.

KEYWORDS

Primary Biliary Cholangitis, PPAR Agonist

HYPONATREMIA PREVALENCE AND IMPLICATIONS IN DECOMPENSATED CHRONIC LIVER DISEASES: INSIGHTS FROM A TERTIARY CARE HOSPITAL

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INTRODUCTION

Liver cirrhosis is a prominent global contributor to mortality, while hyponatremia emerges as a frequently encountered complication in cirrhotic patients, marked by kidney impairment in eliminating solute-free water. However, the presence of contradictory findings in existing literature prompted the inception of our research study.

OBJECTIVE

To determine the prevalence of hyponatremia in patients with decompensated chronic liver diseases presenting at a tertiary care hospital.

METHODOLOGY

This 6-month cross-sectional study was carried out in an academic medical Centre in Gujranwala, Pakistan. 133 Patients fulfilled the inclusion criteria were selected. After that, blood samples were taken and sent to the hospital's pathology lab for evaluation of the serum sodium level. Reports were assessed and if sodium ≤ 130 mmol/L, then hyponatremia was labeled. All information was recorded on proforma.

RESULTS

The mean age of patients was 47.68 ± 12.89 years. There were 80 (60.15%) males while 53 (39.85%) females. The mean BMI of patients was 23.20 ± 3.11 kg/m². The mean time span of DCLD was 7.24 ± 4.12 years. There were 48 (36.09%) patients with hyponatremia while 85 (63.91%) did not had hyponatremia. The mean sodium level was 132.39 ± 11.37 mEq/L.

CONCLUSION

Individuals suffering from Decompensated Chronic Liver Disease (DCLD) have a notably higher prevalence of hyponatremia. To mitigate the risk of complications such as encephalopathy and to improve patient management, it is highly recommended to consistently monitor the serum sodium levels of DCLD patients.

KEYWORDS

Hyponatremia, decompensated chronic liver disease, serum sodium

COMPARISON OF EFFICACY AND SAFETY OF TENOFOVIR ALAFENAMIDE VERSUS TENOFOVIR DISOPROXIL IN CHRONIC HEPATITIS B VIRUS INFECTION: A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS

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INTRODUCTION

The primary treatment goal in Chronic Hepatitis B (CHB) is preventing disease progression and improving survival. Tenofovir disoproxil fumarate (TDF) carries risks like renal toxicity and reduced bone mineral density (BMD). Tenofovir alafenamide fumarate (TAF) offers enhanced stability and delivery into the hepatocytes.

OBJECTIVE

This study aimed to evaluate the efficacy and safety of TAF compared to TDF in CHB.

METHODOLOGY

We searched PubMed, Google Scholar, and the Cochrane Library from inception till August 8, 2023. We included all RCTs that studied the comparison of efficacy and safety of TAF and TDF in treating CHB. The Primary outcome of interest was proportion of patients with Hepatitis B virus (HBV) DNA below 15-29 IU/ml. The secondary outcomes were proportion of patients who achieved Alanine transaminase (ALT) Normalization, Hip and Spine BMD, serum creatinine concentration and estimated glomerular filtration rate (eGFR) We used a random-effects model to calculate the Risk Ratio (RR) and Mean Difference (MD) with 95% CI.

RESULTS

Of 28,234 articles identified in the search, 4 were eligible for the analysis including 1,960 patients. The comparison between TAF and TDF groups regarding HBV DNA level revealed no significant difference (RR=1.01, 95% CI=0.97 to 1.05; P=0.69, I²=0%). Pooled data showed beneficial effects of TAF compared with TDF for ALT Normalization (RR=1.43, 95% CI=1.15 to 1.77; P=0.001, I²=43%), Hip BMD (MD= 1.44, 95% CI=0.98 to 1.91; P < 0.00001, I²=87%), Spine BMD (MD= 1.63, 95% CI=1.59 to 1.67; P < 0.00001, I²=0%), serum creatinine concentration (MD= -0.02, 95% CI=-0.03 to -0.01; P < 0.00001, I²=0%) and eGFR (MD= 3.55, 95% CI=2.97 to 4.14; P < 0.00001, I²=0%).

CONCLUSION

In patients with CHB, the efficacy of TAF was similar to that of TDF and demonstrated improved BMD and renal function, suggesting a better safety profile than TDF. Additional research is needed to evaluate TAF's efficacy and safety in special populations, including those with impaired liver, kidney, and bone function, as well as pregnant women.

KEYWORDS

Hepatitis B; Tenofovir Disoproxil Fumarate, Tenofovir Alafenamide Fumarate

TYPES OF POLYPS DURING COLONOSCOPY IN PATIENTS PRESENTED TO TERTIARY CARE HOSPITAL: MULTICENTER STUDY IN KARACHI, PAKISTAN

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INTRODUCTION

Colonic polyps are considered as premalignant conditions. Early detection and endoscopic removal of these precancerous lesions are very effective in reducing the incidence and mortality rate of colorectal cancer. CRC is the third most common cancer worldwide and second most common cause of cancer related death worldwide.

OBJECTIVE

Types of Polyps during Colonoscopy in Patients presented to Tertiary Care Hospital: Multicenter Study in Karachi, Pakistan.

METHODOLOGY

This was a retrospective observational longitudinal study, conducted in the department of Gastroenterology at Jinnah Post graduate Medical Center and National Medical Center, Karachi, from 1st March 2014 till to date. Patients with either gender of any age were included in the study while patient with history of Colonic resection and pregnant were excluded. Polypectomy was done either by EMR technique, hot/cold snare or by biopsy forceps.

RESULTS

There were total 210 patients in our study out of which 129(61%) were male and 81(39 %) were female. Mean age was 42 \pm 16 years. The most common type on gross examination was of large polyps 115(55.7%).Most commonly located in the sigmoid colon. Most common presentation was abdominal pain 145(69%) followed by per rectal bleed 105 (50%) and Constipation 70 (30%).Most prevalent histological diagnosis was of tubular adenoma 90(43%), followed by hyperplastic polyps 38 (18%) then juvenile retention polyp 32 (15%) and malignant polyps 21(10%).

CONCLUSION

Tubular adenoma were found in mostly colonoscopies followed by hyperplastic polyp which can develop into the cancer. Patients with adnominal pain and bleeding per rectum should undergo colonoscopies to rule out polyps.

KEYWORDS

Null

SELECTIVE COMMON BILE DUCT CANNULATION TIME DURING ENDOSCOPIC RETROGRADE CHOLANGIOPANCREATOGRAPHY: EFFECTS OF DEXAMETHASONE

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INTRODUCTION

Endoscopic retrograde cholangiopancreatography (ERCP) is the most important diagnostic and therapeutic tool for pancreato-biliary pathologies. Common bile duct (CBD) cannulation is a challenging step and cannulation time has been considered as an accurate measure of procedure difficulty. Various agents have been studied in an attempt to shorten the CBD cannulation time and reduce the risk of complications. Steroids are potent anti-inflammatory agents and smooth muscle relaxants. The objective of this study was to determine the effects of dexamethasone on shortening of deep CBD cannulation time during ERCP.

OBJECTIVE

To determine the effects of dexamethasone on shortening of deep CBD cannulation time during ERCP.

METHODOLOGY

In this randomized double blinded clinical trial, a total of 80 patients requiring ERCP were included and randomized into two groups, experimental and control, using random permuted block technique. Experimental group received 8mg (2cc) of dexamethasone 2-4 hours before ERCP, while the control group was given 2cc of normal saline (placebo). During ERCP procedures, CBD cannulation time, number of cannulation attempts, fluoroscopy time and total ERCP duration were calculated. Student t-test and Wilcoxon sign rank test were used for data analysis and comparison between groups.

RESULTS

The RESULTS showed a significant difference of 9.83 minutes ($P=0.011$) in the mean CBD cannulation time in dexamethasone treated group (7.14 minutes) when compared with control group (16.97 minutes). The total number of CBD cannulation attempts were significantly lower in the treatment group as opposed to control group, at 6.23 attempts vs. 9.43 attempts ($P=0.002$). Compared with normal saline group, in dexamethasone group the mean total fluoroscopy time was shorter, at 2.03 minutes vs. 5.53 minutes ($P=0.001$). The mean total procedure time was noticed to reduce from 44.25 minutes in control group to 29.18 minutes in the dexamethasone group ($P=0.001$). No immediate or long term complications were observed.

CONCLUSION

Prolonged blind cannulation may cause local trauma, bleeding, sphincter of oddi spasm and post ERCP pancreatitis. The administration of dexamethasone reduced CBD cannulation time and the number of attempts, resulting in more efficient procedure with overall reduction in morbidity. Total fluoroscopy time was reduced with the use of dexamethasone which led to decrease in radiation exposure to patients and staff. Further large scale multicenter prospective randomized trials are required to evaluate the role of dexamethasone on CBD cannulation time during ERCP.

KEYWORDS

ERCP, Dexamethasone, CBD cannulation time

FREQUENCY OF INSULIN RESISTANCE IN NONDIABETIC NAFLD PATIENTS USING HOMEOSTASIS MODEL OF INSULIN RESISTANCE (HOMA-IR)

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INTRODUCTION

It is well known that sedentary life style leading to obesity is strongly associated with Non alcoholic fatty liver disease. However, beside these factors, biologically NAFLD occurs as a crucial constituent of metabolic disorders that are linked with insulin resistance (IR). IR is frequently seen in NAFLD patients and is considered as key determinant in etiology of NASH and in the progression of liver disease.

OBJECTIVE

To determine the frequency and associated factors of insulin resistance among non-diabetic patients with NAFLD using Homeostasis Model of Insulin Resistance.

METHODOLOGY

A cross-sectional study is being carried out at Department of Gastroenterology at Liaquat National Hospital. Insulin resistance was calculated as $HOMA-IR = \text{fasting insulin (mU/L)} \times \text{fasting glucose (mmol/L)} / 22.5$. Patients with HOMA-IR levels of 2.2 and above were considered as positive case of insulin resistance.

RESULTS

In this ongoing study, 50 patients were enrolled, of which 27(54%) were men and 23(46%) were women. Insulin resistance was found in 30 patients (about 60%) affecting more female 15(65.27%) as compared to males, with predominantly noted in patients between the ages of 36 and 50 (50%). Among them 27(90%) were married patients. The majority 21(90%) of patients were obese with high BMI who've never done exercise were found with insulin resistance. 17(56.7%) of patients with TGL>150 mg/dl were found with insulin resistance. There was significant association of TGL group with insulin resistance ($p=0.003$) along with high ALT, AST and GGT levels.

CONCLUSION

The interim analysis of the study shows high frequency of insulin resistance among non-diabetic NAFLD patients. Although the higher triglycerides levels and lower HDL and cholesterol levels were seen but statistically difference was not seen among patients of insulin resistance and patients without insulin resistance.

KEYWORDS

Insulin resistance (IR), non alcoholic fatty liver disease (NAFLD), Nondiabetic, Homeostasis model of insulin resistance (HOMA -IR)

LEAN AND NON-OBESE METABOLIC DYSFUNCTION ASSOCIATED STEATOTIC LIVER DISEASE (MASLD) IN DIABETICS

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INTRODUCTION

Metabolic dysfunction associated steatotic liver disease (MASLD) is an emerging cause of chronic liver disease and its prevalence is increasing globally. It begins as steatotic liver disease (SLD) and then progresses over time to metabolic dysfunction associated steatohepatitis (MASH), cirrhosis and ultimately to hepatocellular carcinoma (HCC). It mostly occurs in patients who are obese, but recent studies showed increasing cases of MASLD in lean and non-obese population. Our aim is to determine prevalence of lean and non-obese non-alcoholic fatty liver disease in diabetics and their association with other risk factors, as fewer studies are carried out on MASLD in our targeted population.

OBJECTIVE

To determine prevalence of lean and non-obese metabolic dysfunction associated steatotic liver disease in diabetics and their association with gender and duration of diabetes.

METHODOLOGY

It is a descriptive, cross-sectional study conducted in Diabetic clinic, ward 7, JPMC from the month of June 2022 till January 2023. Non-purposive, convenient sampling technique was used. In this study, we enrolled 216 MASLD patients who were diabetics, they were diagnosed as MASLD if they fulfilled following criteria: no history of alcohol consumption (based on AUDIT test), hepatitis B and C non-reactive, evidence of fatty liver on ultrasound and absence of any other systemic illness causing liver disease, no history, clinical or biochemical parameters showing evidence of cirrhosis. Their demographic data was collected, their history of hypertension, dyslipidemia and duration of diabetes was noted. Their height (in meters), weight (in kilograms) and waist circumference were measured, their liver function test and lipid profile were performed.

RESULTS

A total of 216 diabetic MASLD patients were enrolled in our study, 34(15.7%) were found to have lean MASLD, while 37(17%) had non-obese MASLD and 145(67%) had obese MASLD. There were 75 males while 142 females. It was seen that in lean MASLD 13(17.3%) were males while 21(15%) were females and their mean age was 51 years, mean waist circumference was 84cm and duration of diabetes was 11.5 years, in non-obese MASLD 22(29.3%) were males while 16(11%) were females, mean of their age was 57 years, mean waist circumference was 92cm and duration of diabetes was 11 years and in obese NAFLD 40(53.3%) were males while 105(74%) were females, their mean age was 52 years, mean waist circumference was 101cm and mean duration of diabetes was 9.6 years.

CONCLUSION

It was seen that obese MASLD was more common in females while lean and non-obese MASLD were more common in males. Duration of diabetes was longer in lean and non-obese MASLD than in obese MASLD patients.

KEYWORDS

MASH, LEAN MASLD, NON-OBESE MASLD

ASSOCIATION BETWEEN METABOLIC DYSFUNCTION-ASSOCIATED STEATOTIC LIVER DISEASE AND DIABETES MELLITUS II: A RETROSPECTIVE CASE STUDY

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INTRODUCTION

Diabetes mellitus type II (T2DM) is chronic metabolic disorder that is characterized by high blood sugar, insulin resistance, and relative insulin deficiency. Metabolic dysfunction associated steatotic liver disease (MASLD) is the term used to describe fatty liver (steatosis) in individuals without a history of significant alcohol intake. MASLD is progressively known as main leading cause of chronic liver disease. Dietary factors, a significant risk factor of developing T2DM and cardiovascular disease, also contribute to MASLD development.

OBJECTIVE

To determine the association between metabolic dysfunction associated steatotic liver disease and diabetes mellitus type II in patients presenting at a tertiary care hospital.

METHODOLOGY

This retrospective case control study was conducted over a period of one year in a tertiary care hospital in Gujranwala, Pakistan. A total of 380 patients were enrolled through non-probability consecutive sampling and divided into two groups i.e. cases with T2DM and controls without T2DM. All participants were assessed for serum AST & ALT levels and underwent abdominal ultrasound to determine hepatic fibrosis. A diagnosis of MASLD was made only in the presence of hepatic steatosis with AST & ALT values more than 40IU. Odds ratio (OR) was calculated and stratified analysis was conducted according to gender, age and BMI. A p value of ≤ 0.05 was considered statistically significant.

RESULTS

In our study 55.53% patients were male while 44.47% were female. The average BMI ($\bar{X} \pm SD$) of the patients was 23.66 ± 3.08 kg/m². Among cases group the MASLD was noted in 91(47.9%) patients while among control the MASLD was noted in 64 (33.7%) patients with a statistically significant odds ratio of 1.810 (1.19-2.74).

CONCLUSION

MASLD is significantly associated with the type II diabetes mellitus (T2DM), regardless of gender and BMI of patients. We recommend screening T2DM patients for presence of MASLD on regular intervals in order to prevent hazardous consequences of MASLD in adult populations, particularly those with features of metabolic syndrome. Further larger scale studies investigating the impact of T2DM on MASLD are required to reduce morbidity and decrease disease burden especially in prevalent areas.

KEYWORDS

Metabolic dysfunction-associated steatotic liver disease, Fatty Liver, Type 2 diabetes Mellitus, steatosis

MELD 3.0 SCORE IN PREDICTION OF VARICES AND COMPARISON WITH ITS PREVIOUS VERSIONS IN PATIENTS UNDERGOING ESOPHAGO-GASTRO-DUODENOSCOPY FOR VARICEAL SCREENING OR BAND LIGATION

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INTRODUCTION

For assessing and predicting complications of chronic liver disease, different prognostic scores have been formulated. In a recent validation study MELD 3.0, incorporating serum Albumin (Alb) and female gender, correctly making 8.8% subjects to a higher tier to be eligible for liver transplant especially in women, and lower waiting list deaths in comparison with MELD Na. Although the importance of MELD 3.0 is validated in liver organ transplant allocation, its use for predicting variceal bleed is not yet studied.

OBJECTIVE

Aims of this study are: • To estimate value of MELD 3.0 for predicting small and large varices using AUROC. • To compare MELD, MELD Na & MELD 3.0 score values with presence of varices in patients undergoing variceal screening or band ligation.

METHODOLOGY

Cross-sectional ongoing study and is being conducted in Gastroenterology ward and endoscopy unit of Civil hospital Karachi & OMI Hospital, from August 2022 till July 2023 on 127 patients of either gender of age between 18 to 60 years undergoing screening endoscopy. Patients with severe cardio-respiratory or psychiatric disease, splenic or portal vein thrombosis, hepatocellular carcinoma, primary biliary cirrhosis, INR ≥ 5 were excluded from study. Online free calculator was used for calculation of all three scores. Normal distribution of quantitative variables was checked by Kolmogorov-Smirnov (KS) test and value of $\alpha=0.05$ determined that variable is not normally distributed. Frequencies of qualitative variables were compared by χ^2 test. Means \pm SD of quantitative variables was compared by Student's t-test or ANOVA. AUROC plots were generated for all MELD variants for presence of both small and large varices separately. Sub-group analysis for gender and stage of varices was also done.

RESULTS

Out of one hundred twenty-seven patients, 70 (55.1%) were males and 57 (44.9%) were females. Mean age for males was 46.66 ± 9.94 and that for females was 48.89 ± 17.19 years, without statistically significant difference. Significant differences among gender were found between serum sodium levels and MELD Na scores. Varices were absent in 13 (10.2%) and were found in 114 (89.8%) of patients, out of these 36 (28.3%) were small varices, 74 (58.3%) were large varices & 4 (3.1%) were gastric varices. Strong positive correlation was found among all MELD variants and variceal presence with a p-value $<.001$. ROC curves were plotted for all three variants of MELD for absence of varices, small varices, and large varices Fig 1 AUC were also calculated for all three variants, AUC of ROC of all MELD variants were very highly significant for excluding varices. For detection of small varices, all 3 MELD variants showed moderate sensitivity and significance, out of 3 MELD Variants, MELD Na performed relatively better. For detection of large varices all 3 MELD variant performed good but again MELD Na performed relatively better, details are given in Table 1

Variables	Area under Curve	Significance
Varices Absent	.844	$<.001^*$
Small Varices	.660	$.005^*$
Large Varices	.726	

<.001* MELD Na Score .840 <.001* .684 .001* .744 <.001* MELD 3.0 Score .834 <.001* .667 .002* .738 <.001* *.
Significant values ≥ 0.01 AUC: Area Under Curve

CONCLUSION

Strong positive correlation was found among all MELD variants with variceal presence. $\hat{\epsilon}$ MELD Na performed slightly better than MELD 3.0 in predicting absence varices. $\hat{\epsilon}$ For prediction of presence of small and large varices MELD Na performed the best.

KEYWORDS

MELD score, MELD 3 score, Varices

CHARACTERIZATION OF HEPATITIS B AND DELTA CO-INFECTION VIRAL KINETICS IN PAKISTAN

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INTRODUCTION

Characteristics of HEP B and HEP D still remain unclear unfortunately in Pakistan, so here we studied seroprevalence in Sindh Pak by assessing HDV\HBV viral loads & HBe antigen conservation.

OBJECTIVE

Know the Viral Kinetics of Hepatitis B & D Co-infection as well as Mono infection.

METHODOLOGY

In a period from 2020-22, Serologically anti-HDV were total resulted from 502 HBsAg positive individuals. They were prospectively analyzed to determine HDV seroprevalence. In cohorts HBV\HDV, Co-Infected Patients were 235 & Noninfected were 267 Patients. For determination of viral kinetics and severity of mono\co Infected Quantitative real time PCR [qrt-PCR], Fibro scan and HBeAg were performed.

RESULTS

Out of 502 patients of positive HBsAg, 235 patients were positive for Anti-HDV antibodies. The following are the representation Viral Kinetics.

CONCLUSION

As there is overall very high prevalence of HDV [46%] which mandates HDV testing for all HBsAg positive patients of Sindh, Pakistan. The Patients which were positive for HDV RNA have low HBV DNA blood level and advanced Fibrosis stage. The very high HDV seroprevalence and lack of effective anti HDV treatment narrates the strict surveillance specially in patients with higher HDV viral loads and advanced fibrotic stage.

KEYWORDS

Hepatitis B, Hepatitis D Co-infection, Viral Kinetics

RISK FACTORS FOR DELTA HEPATITIS IN PAKISTANMustafa Burney¹, Usman Ghani¹, Umar Soomro², Sadik Memon²

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INTRODUCTION

Chronic HBV carriers are at increased risk of infection with HDV, which could worsen pre-existing liver disease. Information on the risk factors of HDV is unknown. In our study, we aim to evaluate the risk factors present in our community.

OBJECTIVE

Know the Viral Kinetics of Hepatitis B & D Co-infection as well as Mono infection.

METHODOLOGY

This is a prospective cohort study in a tertiary care setting. The criteria of inclusion is a patient with HBsAg positive, then tested for HDV PCR and Viral load. The patients excluded from the study were the ones suffering from decompensated cirrhosis and/or hepatocellular carcinoma due to HBV.

RESULTS

502 patients suffering from chronic HBV infection were recruited from May 2020 to April 2022 and tested for HDV. 235(47%) of them tested positive for HDV. 178(76%) of the positive patients were male. The other risk factors Identified were: 1. People belonging to endemic areas like Sukkur, Ghotki, Kashmore, Larkana. 2. Patients having advanced fibrosis (f3/f4) on fibroscan on presentation. 3. Patients with HBV e Ag -ve at baseline 4. Patients with ALT > 40 and HBV VL < 2000 IU/ml 5. Patients belonging to sindhi or Baloch community. 6. Patients with history of more than 5 therapeutic injections in a year. 7. Patients with a first degree family member being infected by HDV

CONCLUSION

HDV is highly prevalent in HBV endemic areas. The risk factors mentioned above should be kept in mind when a HBV positive patient is assessed. The new risk factors found from our study are >5 therapeutic injections in a year and Intrafamilial spread.

KEYWORDS

Hepatitis B, Hepatitis D Co-infection, Viral Kinetics

IMPACT OF AN ARTIFICIAL INTELLIGENCE BASED MODEL TO DETERMINE TRANSPLANT ELIGIBILITY FOR HEPATOCELLULAR CARCINOMA

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INTRODUCTION

For carefully selected patients with hepatocellular carcinoma (HCC), liver transplantation (LT) is a viable treatment option. Deep learning (DL), which is a newer, cutting-edge branch of Artificial Intelligence (AI) uses an algorithmic architecture layered like the neural networks of our brain to analyze data. The application of AI to select HCC patients for LT has only been reported recently and has shown immense promise.

OBJECTIVE

The objective of the current study was to develop a deep learning model for the determination of 5-year post-LT recurrence of HCC.

METHODOLOGY

We included 192 patients who underwent LT for HCC between 2012 and 2019. To build the AI HCC-LT model, we randomized patients into the training (n=154, 80%) and the validation (n=38, 20%) cohorts. Two prediction models were developed using deep learning: first model was developed using 8 pre-transplant factors, selected using filter methods for feature selection and the second model integrated histological grade as well. The pre-transplant factors used were age, gender, maximum tumor size on CT, tumor number on CT, number of lobes involved, Alpha-feto protein levels (AFP), Neutrophil to Lymphocyte Ratio (NLR), and Response to TACE (categorized as good and bad response). Shapley Additive exPlanations (SHAP) algorithm was employed to compute factor weightages. The primary outcome measure was 5-year recurrence free survival (RFS).

RESULTS

The median follow-up time was 59.1(33.9-72.4) months. Using the AI model, the AUC for the training and the validation cohorts were 0.864 and 0.717 respectively. The AUC for patients who fulfilled the Milan and the UCSF criteria were 0.646 and 0.598 respectively. The 5-year RFS in the low and high-risk groups were 92.6% and 45% respectively (p=0.009). On quantitative assessment, tumor size and AFP had the highest mean SHAP value for predicting recurrence (> 0.4). When grade was integrated into the AI model, the AUC improved to 0.875 and 0.771 for the training and validation cohorts respectively. The 5-year RFS were 96% and 30% for the low and high-risk groups (p 0.4).

CONCLUSION

The AI based model might improve the determination of transplant eligibility for patients with HCC.

KEYWORDS

Artificial Intelligence (AI), Hepatocellular carcinoma (HCC), Liver Transplantation (LT)

UNVEILING THE LINK BETWEEN DIABETES AND NON-ALCOHOLIC FATTY LIVER DISEASE: A CORRELATION BETWEEN HBA1C AND LIVER ENZYMES

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INTRODUCTION

Non-alcoholic fatty liver disease (NAFLD) is a broad term which makes up a whole spectrum of liver disease from rather benign steatohepatitis to the spectrum of hepatocellular carcinoma. It is critical to understand the various comorbidities that are associated with the NAFLD and cause the progression from hepatitis to cirrhosis and Hepatocellular carcinoma. Type 2 diabetes mellitus is a known risk factor for many diseases and the basic pathophysiology of complications of type 2 DM is same including the Non Alcoholic Fatty Liver Disease. The association of the diabetic control and surrogate marker (HbA1C) and ALT with the NAFLD still remains to be established.

OBJECTIVE

To find out the relation between glycated hemoglobin (HbA1c) and Alanine aminotransferase (ALT) levels in diabetic patients with Non-Alcoholic Fatty Liver Disease (NAFLD).

METHODOLOGY

We conducted a cross-sectional study at a 1700-bed tertiary care hospital (Khyber Teaching Hospital, Pakistan) for a duration of six months. The study included a total of one hundred and thirty patients with pre-existing diabetes who were diagnosed with fatty liver on ultrasound, and we measured their serum Alanine aminotransferase (ALT) levels. The patients were stratified into subgroups based on their diabetic control (HbA1c levels less than or greater than 7%) and their gender. Out of one hundred and thirty patients, seventy-seven were female, and fifty-three were male. As per descriptive statistics, the mean and standard deviation (SD) for the age of the patients was 50.27 \pm 5.73. There were seventy eight (60%) patients with poorly controlled (HbA1c > 7%) Type 2 Diabetes mellitus and fifty two patients (40%) with well-controlled (HbA1c < 7%) Type 2 Diabetes mellitus.

RESULTS

The study showed that forty-six of the seventy-seven female patients had uncontrolled type-2 diabetes mellitus (HbA1c >7%) with mean and SD for ALT levels recorded at 24.6 \pm 3.47. Thirty-one females had controlled type-2 diabetes mellitus (HbA1c <7%) with ALT mean and SD at 54.03 \pm 4.92, while twenty-one had controlled type-2 diabetes mellitus (HbA1c <7%) with mean and SD for ALT level recorded at 29.19 \pm 5.45. Gender Controlled Diabetics With Fatty liver (HbA1c<7) Frequency Percentage Male 21 32 53 40.76% Female 31 46 77 59.23% Total 52 78 130 100% Table 1: FREQUENCY AND PERCENTAGE FOR GENDER AND CONTROLLED & UNCONTROLLED DIABETES GENDER PARAMETER ALT MEAN STANDARD DEVIATION (SD) P VALUE Female CONTROLLED (HbA1c<7) n=31 ALT7) n=46 ALT>19 24.6 3.47 Male CONTROLLED (HbA1c<7) n=21 ALT7) n=32 ALT>40 54.03 4.92

CONCLUSION

The study shows elevated levels of Alanine aminotransferase (ALT) in patients with uncontrolled type 2 diabetes mellitus (DM) who had Non-Alcoholic Fatty Liver Disease (NAFLD) as compared to the patients with controlled diabetes. Thus Alanine aminotransferase (ALT) has a positive relationship with glycated hemoglobin (HbA1c) in diabetic patients.

KEYWORDS

Non-alcoholic fatty liver disease, NAFLD, Alanine aminotransferase, ALT, glycated hemoglobin (HbA1c)

COMPARISON OF PIVKA II AND ALPHA FETOPROTEIN IN DIFFERENT STAGES AND MACROVASCULAR INVASIVE CHARACTERISTICS OF HEPATOCELLULAR CARCINOMA

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INTRODUCTION

HCC is the most common primary cancer of the liver. The most common risk factors of HCC are hepatitis B, hepatitis C, and NAFLD. Serum biomarkers including AFP, and PIVKA II are the most common diagnostic modality for the detection of HCC, others are imaging techniques and histological analysis. PIVKA II levels vary among different stages, grades, size of the tumor, and portal vein thrombosis. That's why it may be used as a promising biomarker for early diagnosis of HCC and surveillance.

OBJECTIVE

To analyze the values of PIVKA II and AFP in patients with different stages of HCC with and without portal vein thrombosis, irrespective of the cause of HCC.

METHODOLOGY

Materials and methods: Study Design: A cross-sectional study Study Technique: Non-probability purposive sampling Sample Size: A sample size of 120 was estimated by using a 95% confidence interval and Error SD of 300 an effect size of 0.43 power and precise 3.0 software was used. Methodology: This study was conducted in the gastroenterology department of Sheik Zayed hospital. A total of 120 patients of both gender fulfilling the inclusion criteria, with hepatocellular carcinoma, were approached. After taking informed consent venous sample of 10cc was drawn and sent for AFP and PIVKA II levels. Child class, MELD Na calculated, and patients were classified according to BCLC criteria. All data were analyzed by using SPSS statistics version 27.0.

RESULTS

Using a cut-off value of 10ng/ml for AFP and 40mIU/L for PIVKA II, average values of the PIVKA II varies significantly (P-value0.05 RESULTS of analysis of variance for comparing PIVKA and AFP in different Groups Sum of Squares Df. Mean Square F P-value PIVKA Between Groups 8518985767.024 4 2129746441.756 30.604 .000 Within Groups 7724588857.732 111 69590890.610 Total 16243574624.756 115 AFP Between Groups 163965771.976 4 40991442.994 1.809 .132 Within Groups 2515676458.185 111 22663751.876 Total 2679642230.161 115

CONCLUSION

PIVKA II can be considered a screening tool for the early detection of HCC.

KEYWORDS

AFP, PIVKA II, hepatocellular carcinoma

THE SIGNIFICANCE OF TIME-TO-POSITIVITY OF ANTI-HCV RAPID DIAGNOSTIC TEST IN PREDICTING HCV ACTIVE VIREMIA

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INTRODUCTION

Hepatitis C virus (HCV) infection is a public health threat worldwide and a leading cause of liver related deaths. According to World Health Organization (WHO), it is estimated that 3% of the world's population is infected with HCV. Currently, the recommended protocol is to initially screen at risk population with a point of care anti-HCV antibody rapid diagnostic test (RDT), followed by a reflex HCV RNA testing to determine active viremia. Simplification of current HCV diagnostic cascade can help achieve linkage to care in resource poor settings. The present study aimed to assess the significance of time-to-positivity (TTP) of anti-HCV RDT in predicting active viremia in sero-positive patients.

OBJECTIVE

To determine the correlation between the read time on rapid diagnostic test and active viremia in HCV infected patients.

METHODOLOGY

HCV screening was conducted in 18873 patients with SD Bioline HCV antibody kits to detect anti-HCV antibodies. The two step HCV diagnostic approach was adopted. During screening phase, finger needle prick sample was tested for antibody on RDT kits. TTP was recorded at predetermined intervals up to 20 minutes. In phase II, a second sample was obtained through venipuncture for quantitative HCV PCR analysis in all sero-positive patients. Serum HCV RNA quantification was performed with Abbott Automated Analyzer. The correlation between TTP and detectable HCV RNA levels was determined by Spearman correlation analysis.

RESULTS

HCV prevalence was found to be around 6% (1132/18873). Of anti-HCV positive patients, there were 848 (75%) cases of active viremia. Amongst cases with detectable HCV RNA, patients with shorter time to positivity appeared to have higher levels of HCV RNA. Patients who had < 30 seconds TTP in the RDT kit had significantly higher viral load (893058 IU/mL), compared to patients who tested positive on RDT at 60-90 seconds and 90-120 seconds, where average HCV RNA viral load was 44619.5 IU/mL and 11530 IU/mL, respectively. Spearman's Rank analysis showed a moderate negative correlation between TTP of anti-HCV antibody and HCV RNA values ($r = -0.75$, $p < 0.001$).

CONCLUSION

The TTP of anti-HCV antibody test is moderately correlated with HCV viremia and can be considered a valuable alternative in resource poor settings, especially in countries with high HCV prevalence. This can facilitate mass screening, reduce the economic burden of reflex HCV RNA testing and expedite timely intervention to control spread of infection and ultimately help achieve the WHO hepatitis elimination goal. Further multicenter projects on a larger scale can help substantiate the findings of our study.

KEYWORDS

HCV, time-to-positivity, active viremia

COMPARISON OF SEVERITY OF PANCREATITIS WITH AND WITHOUT DICLOFENAC SODIUM IN POST ERCP PATIENTS

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INTRODUCTION

Post-endoscopic retrograde cholangiopancreatography pancreatitis (PEP) is a serious and lethal complication. Pharmacological prophylaxis with NSAIDs is recommended by some guidelines. NSAIDs have been reported to be effective in preventing PEP in several clinical trials. The use of intrarectal NSAIDs for this purpose has been extensively documented.

OBJECTIVE

To compare the diclofenac sodium intramuscular prophylaxis given with standard treatment in patients having ERCP was compared with standard treatment alone with respect to frequency and severity of pancreatitis within 48 hours after the procedure.

METHODOLOGY

The study enrolled 160 patients with obstructive jaundice with or without pruritus (20-70 years). Each group consisted of 80 patients. A prophylactic dose of 75 mg of diclofenac sodium was administered intramuscularly to Group A in addition to standard treatment, while standard treatment was given to Group B alone. The standard treatment for PEP was antibiotics (Cefoperazone/Sulbactam 2g IV) for both groups. IV dormicum (midazolam) was given to both groups as sedation. All patients were tested for lipase and amylase after the procedure to detect any complications. They were also monitored for abdominal pain at 4 and 24 hours after the procedure.

RESULTS

In patients of Group A (n=80), the mean age was 47.1 years $\hat{\pm}$ 8.4 SD, whereas in patients in Group B (n=80), the mean age was 47.5 years $\hat{\pm}$ 7.4 SD. In Group A, 3.8% of patients (n=3/80) developed PEP, while 11% (n=11/80) developed PEP ($p=0.025$). Intramuscular diclofenac sodium was more efficient at preventing PEP when compared to the control group on standard treatment alone, on all of the following parameters: (1) the proportion of patients that did not develop PEP, (2) the rate of patients that developed PEP, and (3) the average quantity of days that patients were sick. In both groups A and B, the PEP diagnosis was mild and the patients were discharged within 2-3 days of diagnosis. PEP efficacy was not significantly different across age groups or genders in both treatment groups ($p>0.05$).

CONCLUSION

Diclofenac sodium is significantly more effective than standard treatment alone for intramuscular pancreatitis prophylaxis after ERCP.

KEYWORDS

Diclofenac Sodium, ERCP, Post ERCP Pancreatitis

FULMINANT HEPATIC FAILURE IN PREGNANCY: CHALLENGES, ETIOLOGY, MANAGEMENT AND ITS ASSOCIATED MORTALITY

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INTRODUCTION

FHF in pregnancy negatively affects both maternal and foetal outcome, which depends on the etiology, timely diagnosis, prompt management, and early referral to a center equipped in managing medical or obstetric complication. No studies are available in our region on focusing on challenges, etiology, management and outcome in pregnant FHF patients. Due to which we conducted a cross-sectional study at the Department of Gastroenterology, Jinnah Postgraduate Medical Centre, Karachi, Pakistan.

OBJECTIVE

The study was aimed to determine the challenges, etiology, management and its associated mortality in pregnant Fulminant hepatic failure (FHF) patients.

METHODOLOGY

we conducted a cross-sectional study at the Department of Gastroenterology, Jinnah Postgraduate Medical Centre, Karachi, Pakistan from January 2018 till to date. All pregnant patients with FHF, having age ≥ 16 years were recruited and investigated for acute viral serology, complete blood count, liver function tests, renal function tests, serum creatinine, MELD score parameters and King's college criteria (KCC) parameters.

RESULTS

We have enrolled 47 patients up till now with the mean age of 25.14 ± 8.32 years. Hepatitis E was found to be the most common cause of FHF in 41 (87.23%). Thirty-three (70.21%) of patients died and 14 (29.78%) patients recovered and were discharged symptom free. Variables i.e. presence of viral hepatitis E, serum creatinine >2.5 mg/dl, and sepsis were found to have significant association with mortality on linear correlation. Only serum creatinine more than 2.5 mg/dl and development of sepsis were found to predict the outcome after multivariate analysis. The KCC criteria cut off point was reached in a total of 40 (85.10%) patients (out of 47) of which 30 (75%) patients died. Prevention/treatment of cerebral oedema, timely pregnancy termination, running N acetylcysteine, giving mechanical ventilation in indicated patients, surveillance for infections and prompt antimicrobial treatment, correction of coagulopathy, maintenance of optimum haemodynamic, volume replacement, vasopressor support, renal perfusion, preventing hypoglycemia and providing nutritional supplementation were found to have mortality benefits and early recovery.

CONCLUSION

We conclude that hepatitis E is the usual cause of FHF in our pregnant women, the diagnosis should be considered early with consultation regarding termination of the pregnancy. Management protocols need to be individualised for each case keeping in mind the risk versus benefit to both the mother and the foetus

KEYWORDS

FHF, Pregnancy, Karachi, Pakistan

ASSESSMENT OF LIVER FIBROSIS WITH TRANSIENT ELASTOGRAPHY IN NAFLD PATIENTS

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INTRODUCTION

Transient Elastography (TE) is a noninvasive technique for estimating liver fibrosis. There is a limited data about the performance of TE in Pakistani patients with nonalcoholic fatty liver disease (NAFLD). NAFLD is a global outbreak, it is pivotal that patients with NAFLD should undergo an assessment for their risk of advanced fibrosis, which enhances the risk of hepatocellular carcinoma (HCC) and other complications of cirrhosis. An overall prevalence of NAFLD in Pakistan is 47%. In the present study.

OBJECTIVE

To evaluate the diagnostic accuracy of TE in identifying different degrees of fibrosis in NAFLD adult patients.

METHODOLOGY

A Cross-sectional study was undertaken at the Department of Gastroenterology, Jinnah Postgraduate Medical Centre and Medical Unit II, Dow University of Health Sciences Ojha campus Karachi, Pakistan. After obtaining ethical approval, all patients above the age of 18 years, with diagnosis of NAFLD on the basis of abnormal liver function tests (LFTs) and on ultrasound abdomen consistent with fatty liver were included in the study. All patients with hepatitis, hepatic malignancies, hepatobiliary infections, and biliary tract disease were excluded from the study. Fibrosis score was calculated through Elastography as: F0-F1 (5.3-7.1 kPa, Normal); F2 (7.5-8.5 kPa, Mild/Grade-I); F3 (9.5-13.0 kPa, Moderate/Grade-II); and F4 (13.1-18.8 kPa, Severe/Grade-III). This study is an ongoing study.

RESULTS

A total of 171 patients were enrolled in the study, from which 69 (40.35%) were male and 102 (59.64%) were female, with a mean age of 37.50 ± 9.74 years. Out of these, 112 (65.49%) belonged to the lower socioeconomic class. One hundred and twenty-two (71.34%) patients had fatty liver on ultrasound and 49 (28.65%) had hepatomegaly with fatty changes. TE revealed 69 (40.35%) patients had a score of F0-F1, 62 (36.25%) F2, 29 (16.95%) F3, and only 11 (6.43%) had a score of F4.

CONCLUSION

The detection of liver fibrosis at early stages is crucial in preventing its progression to cirrhosis which is the irreversible process. Reversal of fibrosis is only possible if it is diagnosed as early as possible and managed with appropriate treatment.

KEYWORDS

NAFLD, Elastography, Karachi, Pakistan

HCV SCREENING: SHORTENING READ TIME OF POINT-OF-CARE RAPID DIAGNOSTIC TEST DOES NOT AFFECT DETECTION RATE OF ANTIBODIES AGAINST HEPATITIS C VIRUS

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INTRODUCTION

Hepatitis C virus (HCV) infection is a public health threat worldwide and Pakistan has one of the highest HCV prevalence in the world. The WHO has proposed the goal of eliminating viral hepatitis as a public health threat by 2030. This requires a massive scale-up in screening efforts. Simplification of point-of-care (POC) rapid diagnostic tests (RDTs) which detect anti-HCV antibodies would enhance overall linkage to care, particularly for screening and difficult-to-reach populations. Currently, the recommended read time of POC rapid diagnostic detection test to identify antibody positive samples is 20 min. A positive POC RDTs result is then followed by a reflex HCV RNA testing to confirm active viremia. This study was conducted to determine whether a shorter read time of 5 minutes could be used to identify all anti-HCV antibody positive samples, and its correlation with active viremia.

OBJECTIVE

To determine whether viremic patients could be identified using a shorter read time on HCV rapid diagnostic tests

METHODOLOGY

The SD Bioline HCV POC RDT was used for the qualitative detection of antibodies specific to HCV. Any detectable band on RDT was counted as positive, regardless of band intensity. Samples were collected at two sites: a tertiary hospital and through community screening. HCV screening was done on the mentioned kit at District Headquarter Hospital-Gujranwala Medical College and PARSA Trust Liver Clinic at Gujranwala, Pakistan. Blood samples were tested immediately after collection of whole blood, via finger prick. Two blinded observers, at both collection centers, separately recorded the time-to-positivity by continuous observation during the first 5 minutes, then each minute after, up to 10 minutes and then again at 15 and 20 minutes. The time-to-positivity on RDTs was measured by using a stopwatch to note the exact duration of time from the point when sample was placed on RDT kit till the point a positive result appeared. A sample of HCV RNA by PCR was collected in all those who tested positive for anti-HCV antibodies.

RESULTS

Of 1266 patients with a positive test result on anti-HCV antibody POC RDT test, there were 766 (61%) patients with active viremia. In participants with active viremia, 52.7% (404/766) females and 47.3% (362/766) males, the mean age ($\bar{A}\pm SD$) was 46.37 years ($\bar{A}\pm 15.53$). In viremic patients, the median time-to-positivity was 1.8 minutes (range, 0.2 -2.2 min). Out of all viremic cases, 62.01% of participants had a positive test result in between 60 to 90 seconds whereas 18.02% produced a positive result within 50-60 seconds. Less than 1% of patients with active viremia had a positive screening test within 120-300 seconds. All the patients with active viremia produced a positive result in the antibody RDT test within 5 minutes read time.

CONCLUSION

Reducing read time of SD bioline rapid antibody POC test from 20 minutes to 5 minutes causes no loss of antibody detection in patients with active viremia. Shortening read time could improve screening efficiency, decrease loss to follow-up rates and can potentially reduce the need for reflex HCV RNA testing. Further studies evaluating POC RDT should be undertaken to explore its utility in replacing HCV RNA by PCR test to detect active viremia in resource poor settings.

KEYWORDS

HCV, Rapid-diagnostic-test, Read time

A SIMPLIFIED PATHWAY FROM DIAGNOSIS TO TREATMENT FOR CHRONIC HEPATITIS C IN A HIGH- PREVALENCE URBAN INFORMAL SETTLEMENT, KARACHI, PAKISTAN

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Isaakidis

MSF Pakistan Krachi Hepatitis C project

INTRODUCTION

Despite the widespread availability of direct-acting antivirals (DAAs), many of those diagnosed with Chronic hepatitis C (CHC) have not received treatment (1). The current pathway of hepatitis C virus (HCV) diagnosis and treatment in Pakistan's National Health Service system has numerous steps, including the execution of tests for the aspartate aminotransferase to platelet ratio index (APRI) score (2). International guidelines recommend the initiation of a pan-genotypic DAA regimen after a simple diagnostic process (3)

OBJECTIVE

The present study estimated the efficiency gains resulting from simplified pathways from diagnosis to treatment of chronic hepatitis C patients in a high-prevalence context (Machar Colony, Karachi, Pakistan)

METHODOLOGY

CHC patients for whom the infection was diagnosed in the Médecins Sans Frontières clinic in Machar Colony between June 2018 and April 2023 were the individuals selected for this study. This was a retrospective cohort study comparing the percentage of patients with CHC started on treatment, the days from diagnosis to treatment start and the failure rate of two periods: from June 2018 to February 2022 in which the APRI score determined the length of treatment for either 12 or 24 weeks, and from March 2022 to April 2023 in which all patients received treatment for 12 weeks. The significance of the difference in outcomes in the two periods was assessed with the t-test for continuous variables and Pearson's Chi² test for categorical variables.

RESULTS

5,820 CHC patients were enrolled in the study, and 4,737 were evaluated for treatment. Of the 3,728 patients diagnosed when the APRI score determined the length of treatment, 907 (24%) were lost to follow-up (LTFU), while of the 2,082 diagnosed when APRI score was not a requirement for deciding the length of treatment, 186 (8.9%) were LTFU (p-value<0.001). During the 1st period, 35% of those treated received treatment within one week from diagnosis, while it was 77% during the 2nd period. The mean time from diagnosis to treatment was reduced from 46 (SD:111) in the 1st period to 16 (SD:49) days in the 2nd (p-value<0.001). Of the 4,482 (3,034 1st period; 1,450 2nd period) patients who were diagnosed before January 2023, 2,469 had SVR12 with 299 failures. The percentage of treatment failure was 7% in the 1st period and 9% in the 2nd period; the difference is not statistically significant (p-value: 0.099).

CONCLUSION

These data show that a simplified pathway for the initiation of HCV treatment was associated with significantly lower LTFU and time to initiation of treatment without evidence for an impact on treatment success proportions. These RESULTS support and provide added evidence for the simplification of HCV diagnosis requirements that would allow Pakistan to move closer to hepatitis c elimination targets.

KEYWORDS

Simplified pathway from diagnosis to treatment for chronic hepatitis C in a high prevalence

STANDARD OF CARE VERSUS THIAZOLIDINEDIONES IN IMPROVEMENT OF DERANGED LIVER FUNCTION TESTS IN NON-ALCOHOLIC STEATOHEPATITIS PATIENTS WITH TYPE 2 DIABETES MELLITUS

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INTRODUCTION

Metabolic dysfunction associated steatotic liver disease (MASLD), previously known as Nonalcoholic fatty liver disease (NAFLD) is a chronic liver disease with a high incidence worldwide. MASLD has a spectrum comprised of fatty liver, metabolic dysfunction associated steatohepatitis (MASH), advanced fibrosis, cirrhosis and hepatocellular carcinoma. (1). The global prevalence of NAFLD is estimated to be 32.4% (95% CI 29.9–34.9). In men the NAFLD was found to be more prevalent than in women (39.7% [36.6–42.8] vs 25.6% [22.3–28.8]; $p < 0.0001$). (2). A study conducted in JPMC showed prevalence of NAFLD to be 40.8% which was more in age group of 45-55 years. (3) The rationale of the study is to determine the efficacy of thiazolidinediones in improvement of biochemical derangement in liver function test in patients with type 2 diabetes mellitus. As there is no approved pharmacological treatment for NASH, and its treatment is primarily based on lifestyle modification which is difficult to achieve for most of the patients, there is a need of pharmacological therapy to stop progression or reverse NASH.

OBJECTIVE

To compare standard of care versus thiazolidinediones in improvement of deranged liver function tests in metabolic dysfunction associated steatohepatitis (MASH) patients with type 2 diabetes mellitus.

METHODOLOGY

It is a descriptive, cross-sectional study conducted in JPMC from the month of March 2023 till December 2023. Non-purposive, convenient sampling technique was used.

RESULTS

Patients who took pioglitazone had improvements in their ALT, GGT and HbA1C levels.

CONCLUSION

Thiazolidinediones are effective in the treatment of MASH as they improved biochemical parameters of liver function tests in diabetics.

KEYWORDS

MASLD, MASH, Thiazolidinediones, NAFLD

REFLEX TESTING FOR HDV INFECTION IN HBV-POSITIVE INDIVIDUALS: A COMPREHENSIVE ANALYSIS IN SOUTHEAST ASIAN PATIENTS

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INTRODUCTION

Hepatitis D virus (HDV) infection occurs as a coinfection with hepatitis B and increases the risk of hepatocellular carcinoma, decompensated cirrhosis, and mortality compared to hepatitis B virus (HBV) mono infection. Reliable estimates of the prevalence of HDV infection and disease burden are essential to formulate strategies to find coinfecting individuals more effectively and efficiently. The most effective method to generate estimates of the prevalence of anti-HDV and HDV RNA positivity and to find undiagnosed individuals at the national level is to implement reflex testing.

OBJECTIVE

This study aimed to evaluate the efficacy of reflex testing strategies at Asian Institute of Medical Sciences for the early detection of HDV infection in HBV-positive individuals.

METHODOLOGY

A retrospective analysis of medical records from a large cohort of HBV-positive patients was conducted at AIMS, Hyderabad, Pakistan. Reflex testing for HDV was implemented using a two-step approach, beginning with serological markers followed by confirmatory molecular assays. Data on patient demographics, HDV sero prevalence, and clinical outcomes were collected and analyzed.

RESULTS

RESULTS of the 1378 HBV Positive Individuals (459) 33.4 % were found to be co-infected with HDV upon reflex testing. Among the cohort, 321 (33.3 %) of HDV-positive individuals were male, highlighting a gender-based disparity in HDV co-infection rates. Additionally, the study examined age distribution and found that the age group of 20 to 30 years had the highest prevalence of HDV superinfection, with 141 cases, representing 31.1% of the total HDV-positive cases.

CONCLUSION

Reflex testing for HDV infection in HBV-positive individuals is crucial, especially for males and those in the 20 to 30-year age range, who appear to be at a higher risk. The findings suggest a need for targeted screening and intervention strategies to address this demographic trend. Early identification of HDV co-infection can guide appropriate management and reduce disease burden, underscoring the importance of reflex testing in these at-risk populations.

KEYWORDS

Hepatitis B, Hepatitis D Co-Infection, Viral Kinetics

THE TRYGLYCERIDE GLUCOSE BMI (TYG-BMI) INDEX AND ITS ASSOCIATION WITH NAFLD IN DIABETIC PATIENTS

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INTRODUCTION

NAFLD is the accumulation of excessive fat in liver without another clear cause i.e: alcohol use or other obvious factors that damage liver. It is the diagnosis of exclusion being routinely diagnosed on U/S abdomen and confirmed by liver biopsy. The TyG-BMI index is a non-invasive, readily available and clinically significant indicator of insulin resistance. Some studies have demonstrated the positive association of TyG-BMI with NAFLD. In this study, we aimed to identify the individuals for developing NAFLD with this non-invasive technique.

OBJECTIVE

To test the positive predictive value of TyG-BMI index (non-invasive technique) for detecting NAFLD in diabetic patients.

METHODOLOGY

A descriptive study, done in ward 7 diabetic clinic for period of 6 months. All diabetic patients who were falling in NAFLD criteria were enrolled. Their age, gender, height, weight, FBS and triglycerides level were noted. Informed consent was taken.

RESULTS

We enrolled 90 diabetic patients who had NAFLD, around above 80% patients had TyG-BMI index above threshold level which was relatable with U/S abdomen. Final results under process.

CONCLUSION

TyG-BMI is a predictor for NAFLD and is a noninvasive technique

KEYWORDS

TyG-BMI, NAFLD, non-invasive technique

COMPARISON OF STANDARD THERAPY VERSUS ADD ON ZINC THERAPY FOR THE MANAGEMENT OF HEPATIC ENCEPHALOPATHY

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INTRODUCTION

Hepatic encephalopathy (HE) is a significant neuropsychiatric syndrome that most commonly occurs in decompensated cirrhosis. Low serum zinc level is associated with hepatic encephalopathy (HE), but the efficacy of zinc supplementation remains uncertain.

OBJECTIVE

To compare the frequency of decrease in number of hepatic encephalopathy episodes in patients having standard versus add on zinc therapy.

METHODOLOGY

After approval from hospital ethical committee, 110(55 in each group) patients fulfilling the inclusion criteria were enrolled in the study presenting in Gastroenterology department of PGMI/ Shaikh Zayed Hospital, Lahore. An informed consent was taken from all the patients. Patients were randomly divided into 2 groups by lottery method. Group A patients were received standard treatment including lactulose, rifaximin and protein restricted diet and group B received add on zinc therapy 40 mg daily in addition to the standard treatment. Treatment was continued in both groups for three months and the number of hepatic.

RESULTS

We found that out of 110 patients (55 in each), 14.3 % (n=1) were in age group of 18- 40 years and 52.4%(n=54) were in age group of 41-60 years were in standard therapy group and 85.7 % (n=6) were in age group of 18-40 years and 47.6%(n=49) were in age group of 41-60 years were in add on zinc group, mean age of standard therapy group was 48.56 ± 5.66 years and mean age of add on zinc group was 50.72 ± 6.13 years. There were 50.6 % (n=43) male and 48.0 % (n=12) females in standard therapy group and 49.4 % (n=42) male and 52.0 % (n=13) females in add on zinc group. (p=1.000). BMI was $25.86 + 3.63$ kg/m² in standard therapy group and $26.40 + 3.39$ kg/m² in add on zinc group. (p=0.418) .Total of 110 patients (55 in each), 32.7 % (n=16) had decrease in hepatic encephalopathy episodes in standard therapy group and 67.3 % (n=33) had decrease in hepatic encephalopathy episodes in add on zinc group. (p=0.002)

CONCLUSION

In CONCLUSION, Zinc supplementation may be an effective treatment for the HE.

KEYWORDS

Hepatic encephalopathy, Zinc therapy, Standard therapy

LOK SCORE AS A NON-INVASIVE PARAMETER FOR PREDICTING VARICES IN PATIENTS WITH LIVER CIRRHOSIS

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INTRODUCTION

Cirrhosis of liver is prevailing condition all over the world caused by number of causes predominately hepatitis B and C eventually leading to portal hypertension.[1] Portal hypertension leads to development of gastroesophageal varices rupture of which lead to hematemesis, melena or hematochezia if severe.[2],[3] Cirrhosis is a progressive disease, and as it advances, it can result in significant liver dysfunction, leading to complications such as hepatic encephalopathy and an increased risk of liver cancer. A study in Lahore concluded that Hepatitis C is most common cause of UGIB and presents with variceal bleed rather than ulcer bleed [4] whereas studies conducted worldwide showed peptic ulcers to be the most common cause of UGIB [5]. To prevent variceal hemorrhage, endoscopic variceal screening is most reliable and gold standard tool but is expensive, invasive procedure and also uncomfortable for the patients. [6] Therefore to avoid psychological and financial burden there is need for non-invasive predictors for esophageal varices. [3] Among useful noninvasive markers The Lok Score is highly accurate predictor for excluding the presence of large varices in cirrhotic patients. Lok Score cut-off value of > 0.9141 was highly predictive in the diagnosis large esophageal varices with a sensitivity of 74.5%, specificity of 72%, positive predictive value of 84%, negative predictive value 58%, and accuracy was 73.7%. [3]

OBJECTIVE

The objective of the study was to investigate and establish the utility of the LOK score as a non-invasive tool for predicting the presence or severity of varices in individuals with liver cirrhosis.

METHODOLOGY

This cross-sectional study was conducted at Shaikh Zayed Hospital Lahore. Total of 150 patients of both gender with liver cirrhosis were included in this study. All the patients underwent complete physical examination. The diagnosis of the patients was based on laboratory investigations, ultrasound abdomen and eso-gastroscopy. LOK score was calculated by using MD calculator. SPSS version 25 was used for data analysis. Diagnostic tests were performed to calculate sensitivity, specificity, PPV, NPV and diagnostic accuracy.

RESULTS

The mean age of 150 enrolled patients were 52.88 ± 8.82 years with range of 32 to 72 years. Out of total enrolled patients, 99 (66.0%) were male while 51 (34.0%) were female. 26.0% patients were symptomatic and 74.0% were asymptomatic. On endoscopy it was found that 94 (94.0%) patients were positive and 9 (6.0%) were negative for esophageal varices. Among patients positive for varices 54 (36.0%) had high grade varices, 60 (40%) had median grade varices and 36 (24%) patients had low grade varices. For the etiology of liver cirrhosis, it was found that 135 (90%) patients were HCV+, 6 (4%) patients were HBV+, 3 (2%) patients were having concomitant HBV+/HCV+ and 6 (4%) patients were without concomitant HBV/HCV. For the severity of liver cirrhosis, 33(22%) patients were found with Child Pugh class A, 84 (56.0%) patients with Child Pugh class B and 33 (22.0%) patients with Child Pugh class C. For cut-off value of > 0.890 , the sensitivity of LOK score was 55.3%, specificity was 100.0%, positive predictive value was 100.0%, negative predictive value was 12.5% and diagnostic accuracy was 58.0% for prediction of varices. LOK score is higher in large esophageal varices compared with small esophageal varices.

CONCLUSION

The LOK score was found to be significantly associated with esophageal varices and is considered a good non-invasive predictor of large size esophageal varices. It suggests that this score may be a valuable tool in clinical practice for assessing the risk of varices in patients with liver cirrhosis. Healthcare providers and researchers may continue to refine and validate such scores over time to improve their accuracy and usefulness in clinical practice. Patients with liver cirrhosis should consult with their healthcare providers to determine the most appropriate diagnostic and monitoring strategies for their individual circumstances.

KEYWORDS

UGIB (upper gastrointestinal bleed), PPV (positive predictive value), NPV (negative predictive value)

DIAGNOSTIC ACCURACY OF SPLENIC AND PORTAL VEIN DIAMETER IN DETERMINING ESOPHAGEAL VARICES IN LIVER CIRRHOSIS

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INTRODUCTION

Esophageal varices is a dreadful complication of liver cirrhosis that is linked with higher morbidity and mortality¹. Esophageal varices (EV) are present in 40% of compensated advanced chronic liver disease (cACLD) patients and in 70% of decompensated cirrhosis patients¹. Techniques to identify individuals with clinically significant portal hypertension (CSPH) are important to decrease morbidity and mortality. The present gold-standard technique to measure risk and monitor cirrhotic patients with portal hypertension is hepatic venous pressure gradient measurement or esophagogastroduodenoscopy². However, these techniques are invasive, with a risk of complications and are linked to higher patient discomfort. Therefore, non-invasive parameters are of clinical importance as much useful markers in identifying the presence of portal hypertension³

OBJECTIVE

To determine the diagnostic accuracy of non-invasive parameters (spleen diameter and portal vein diameter) in determining esophageal varices in liver cirrhosis taking Esophagogastroduodenoscopy as gold standard.

METHODOLOGY

Descriptive cross sectional study .A total of 200 patients who fulfilled the inclusion criteria were enrolled. Demographic details of all patients were carried. Blood samples were taken from all participants for CBC, LFTS and other baseline investigations. All patients were then have abdominal ultrasound. After carrying out investigations, patients were then subjected to confirmation of esophageal varices by endoscopic evaluation (as per operational definition) and all the findings were noted down on the performa.

RESULTS

Out of 200 patients, 31.5 % (n=63) were in age group of 17-40 years and 68.5 % (n=137) were in age group of 41-70 years. Mean age was calculated as 46.87±12.18 years. There were 44% (n=88) were male whereas 56% (n=112) were females. Sensitivity and specificity of splenic diameter was 76.19% and 34.38 % respectively and Sensitivity and specificity of portal vein diameter was 58.93% and 96.88% respectively in determining esophageal varices in liver cirrhosis taking esophagogastroduodenoscopy as gold standard.

CONCLUSION

The Portal vein diameter and splenic diameter are easy to obtain and can be used with other markers to identify the high-risk patients for developing esophageal varices. It will reduce the need for endoscopy as screening purposes and lower the medical expenditures.

KEYWORDS

Liver cirrhosis, esophageal varices, Portal vein diameter, Spleen vein diameter.

GENETIC VARIANTS ASSOCIATED WITH NON-ALCOHOLIC FATTY LIVER DISEASE (NAFLD) IN PAKISTANI POPULATION: A WHOLE EXOME SEQUENCING STUDY

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INTRODUCTION

Nonalcoholic fatty liver disease (NAFLD) is rapidly growing in prevalence, presenting a global health challenge.¹ However, understanding its genetic basis remains a significant gap in knowledge, especially in underrepresented populations like Pakistan.

OBJECTIVE

This study aims to investigate the genetic variants associated with NAFLD in a Pakistani population using cutting-edge whole exome sequencing (WES) combined with bioinformatics analysis.

METHODOLOGY

The research was conducted as a cross-sectional study at Ziauddin Hospital & University in Clifton, Karachi, from January 2022 to December 2022. A total of 200 individuals with NAFLD were meticulously selected. The study involved a comprehensive clinical evaluation, including detailed medical history, ultrasound examinations, laboratory investigations, and transient elastography. Furthermore, a case-control prospective analysis was carried out, with six cases selected from the NAFLD cohort and six controls identified from the general population. Whole blood from all the participants (n=12) was collected for DNA extraction. The WES procedure employed the Agilent V6 SureSelectXT Low Input Target Enrichment protocol for Illumina sequencing. Bioinformatics analysis involved alignment of sequences with the human reference genome GRCh38 (hg38) using the Burrow-Wheeler aligner software, variant calling with the Genome Analysis Toolkit, and annotation utilizing the SnpEff tool. Variant interpretation and classification adhered to the American College of Medical Genetics guidelines. Statistical analyses were conducted using SPSS version 28.

RESULTS

The median age of cases was 44 [18]. Out of 200 cases, 148 (74%) were males & 144 (72%) displayed high BMI. Majority were hypertensive 105 (52.5%), diabetic 115 (57.5%) & dyslipidemic 101 (50.5%). Elevated ALT & AST was seen in 152 (76%) & 108 (54%) cases respectively. S3 steatosis was seen in 108 (54%) & F0-F1 fibrosis in 60 (30%) cases. WES analysis: The overall average coverage of mapped reads within the specified regions was 74 million, with 67% of reads accurately aligned to the intended targets. The mean depth of coverage ranged from 86 to 113, with uniformity of around 80%. The regions of interest exhibited high coverage, with ~99% having at least 1x coverage and ~95% having at least 20x coverage. Variant analysis identified a total of around 0.1 million variants in all subjects. These included 12.5% synonymous, 12.2% missense, 0.12% stop gained & 0.02% stop lost mutations. The analysis revealed a presence of 0.14% INDELS, 0.29% frame shift variants, 0.19% in-frame insertions & 0.21% in-frame deletions. A significant proportion of 93% of these variants were cataloged within dbSNP154 database.

Upon conducting CLINVAR analysis, out of 6 cases, 5 showed SUM04 (rs237025) variant as pathogenic, with occurrence rate of 83.3%. The next frequently observed pathogenic gene was PRKCQ (rs2236379) in 66.6%. Following this, MBL2 (rs1800450) showed pathogenicity in 33.3%. Among controls, 66%, 50% & 33% were found

to be pathogenic for PRKCQ (rs2236379), SUM04 (rs237025) & MBL2 (rs1800450) respectively. Notably, the variant CCDC170 (rs76187047) was deemed to be of likely pathogenic nature in 66.6% of cases & 50% of controls.

CONCLUSION

This comprehensive study sheds light on the genetic underpinnings of NAFLD in the Pakistani population, a group that underrepresented in genetic studies. The findings emphasize that NAFLD is not solely a consequence of lifestyle factors but also has a strong genetic component within this population.

KEYWORDS

Whole Exome, Sequencing, NAFLD

TREND ANALYSIS OF HEPATITIS B AND C AMONG PATIENTS VISITING HEPATOLOGY CLINICS OF AIMS HOSPITAL HYDERABAD

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INTRODUCTION

Hepatitis B and C viruses pose significant global public health challenges. Viral hepatitis is the eighth highest cause of mortality globally and was responsible for an estimated 1.34 million deaths in 2015. In 2016, the World Health Assembly set a goal to eliminate viral hepatitis by 2030. Among all causes of viral hepatitis HBV AND HCV are two viruses that are commonly transmitted, and causing frequent co-infections. Despite the availability of effective preventive measures, these infections remain a major issue worldwide, particularly in developing countries like Pakistan.

OBJECTIVE

Aim of our study is to provide an overview of frequency of HBV and HCV in a cohort of patient visiting Liver and GI clinics in Pakistan.

METHODOLOGY

This retrospective study was conducted at AIMS HOSPITAL HYDERABAD PAKISTAN, spanning from January 2021 to August 31, 2023, utilizing documented laboratory records. Data were systematically collected, ensuring completeness on a daily basis. Subsequently, the data were compiled into a predefined logbook, exported, and analyzed using SPSS version 23. Binary logistic regression and the Chi-square test (χ^2) were employed to examine the relationships between dependent and independent variables. Statistical significance was determined by a P-value ($P < 0.05$) and a 95% confidence interval.

RESULTS

A total of 11,681 patients were tested for HBV and HCV. The overall prevalence of hepatitis B and hepatitis C virus was 7.4% (862/11,681) and 18.3% (2,135/11,681), respectively. Among those tested HBSAg reactive 60% (516/862) of males and 40% (344/862) of females (P value 0.047). Similarly, among those reactive for anti HCV, 60% (1,193/2,135) of males and 44% (942/2,135) of females. Notably, frequency of HBV reactive (7.4%) in all age group is more or less same (p value 0.47). However HCV reactive have highest frequency in age > 50 years, 34.4% (735/2135) with lowest in age < 20 years 3% (65/2135) p value 0.01.

CONCLUSION

The frequency of hepatitis C surpasses that of hepatitis B. Both hepatitis B and C share common transmission routes and affect individuals of all age groups, though males are more commonly affected than females. Consequently, efforts to raise awareness within the community about transmission methods, education on prevention, and the control of hepatitis B and C virus infection should be intensified.

KEYWORDS

This is Laboratory data, with minimal clinical information of patient. This is also GI & Liver clinic biased data.

FREQUENCY OF METABOLIC SYNDROME AND DISTRIBUTION OF ITS COMPONENTS AMONG PATIENTS WITH NAFLD

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INTRODUCTION

Non-alcoholic fatty Liver Disease (NAFLD) has emerged as a significant public health concern in recent years, paralleling the global epidemic of obesity and metabolic disorders. Its prevalence is 32.4% worldwide while 47% of the Pakistanis are currently suffering from this disease. It is increasingly recognized as a hepatic manifestation of metabolic dysfunction. The coexistence of NAFLD and Metabolic Syndrome (MetS) has raised critical questions about their interplay, prevalence, and the distribution of their individual components among affected individuals. Thus this study seeks to investigate the frequency of Metabolic Syndrome and elucidate the distribution patterns of its components among patients diagnosed with NAFLD, shedding light on the intricate relationship between these two prevalent health conditions.

OBJECTIVE

To determine the frequency of metabolic syndrome and distribution of its components among non-alcoholic fatty liver disease.

METHODOLOGY

This cross-sectional study included 112 diagnosed patients of NAFLD between the ages of 20 and 65 years from both genders conveniently selected from the radiology and gastroenterology ward of Sheikh Zayed Hospital Lahore from March 2023 till August 2023. However, patients with a history of regular or occasional alcohol consumption, known hepatitis B or C infection, and those not willing to participate in the study were excluded. After ERB approval and informed consent, the interview was conducted with the patients, and their blood pressure along with waist circumference was recorded while a fasting blood sample was collected for serum triglyceride, HDL cholesterol, and fasting blood sugar level the next day and RESULTS collected. SPSS 25.0 was used to analyze the data.

RESULTS

In this study of 112 NAFLD patients, 73.2% were female, with the majority aged between 41 to 60 years. Most patients had mild fatty liver (grade-I), and the mean duration since diagnosis was 1.5 +/- 1.3 years. Notably, 76.8% of females were obese, while only 10% of males had obesity. The majority were normotensive (68.8%), and 17% were diabetic. Elevated TG levels (73.2%) and low HDL levels (87.5%) were prevalent. Approximately 57.1% of patients had metabolic syndrome, with age and gender significantly associated with its presence ($p = 0.00$), while disease duration, NAFLD grades, physical activity, and smoking showed no significant relationship.

CONCLUSION

In CONCLUSION, our study highlights a notable presence of metabolic syndrome among NAFLD patients, with associations observed concerning age and gender. These findings underscore the importance of targeted interventions for metabolic syndrome within this population.

KEYWORDS

Non-alcoholic fatty liver disease, diabetes mellitus, fatty liver, metabolic syndrome

CLINICO-BIOCHEMICAL SPECTRUM IN BENIGN AND MALIGNANT TYPES OF OBSTRUCTIVE JAUNDICE

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INTRODUCTION

Obstructive jaundice is a clinical manifestation of various underlying conditions, both benign and malignant, that disrupt the normal flow of bile from the liver to the intestine. Alkaline phosphatase (ALP) is a widely used biomarker in clinical practice to assess liver function and is frequently elevated in patients with obstructive jaundice. However, the spectrum of clinical manifestations and Sr LFTs have potential diagnostic significance in differentiating between benign and malignant causes of obstructive jaundice remains a subject of ongoing research.

OBJECTIVE

To study the spectrum of clinical and biochemical presentations in benign and malignant causes of obstructive jaundice.

METHODOLOGY

After approval from ERB, this cross-sectional study was conducted in the gastroenterology ward of Sheikh Zayed Hospital Lahore from March to August 2023. We included 50 patients of age 18 years and over, diagnosed with obstructive jaundice of any cause (benign or malignant) while excluding pregnant females, and those with a history of CKD and hyperparathyroidism. The patient's personal profile, clinical signs, and symptoms were recorded in a performed questionnaire, and blood samples were tested for serum bilirubin, Serum ALP and CA19-9 levels. SPSS 25.0 was used to analyze the data.

RESULTS

Most of the jaundiced patients included in the study 41(82%) were females with a mean age was 58 years \pm 13.5yrs and more than half of these patients 29 (58%) had malignant hyperbilirubinemia. A comparison of the clinical features revealed that 19 out of 21 (90%) of the benign, while 100% of the malignant hyperbilirubinemia patients had itching, 4(19%) of the benign and 27(93%) of the malignant jaundiced patient, reported loss of appetite, 17 (81%) of benign and all of the malignant cases complaint of dark urine, abdominal mass was reported in almost half Abdominal mass was 15(52%) of the malignant and none of the benign cases. The Mean Alp level was 159.7 \pm 59 in benign and 390 \pm 231 in malignant cases, the mean Total bilirubin was 10.8 \pm 7 in benign and 17.8 \pm 4 in malignant, and the Mean CA 19-9 in benign was 26.4 \pm 22 in benign and 2400 in malignant cases. Further analysis revealed that loss of appetite, weight loss, and dark urine were significantly related to the type of jaundice (p-values 0.00, 0.00, and 0.014 respectively) Differences in the mean serum total bilirubin, serum ALT, and CA19-9 were also found to be statistically significant between benign and malignant cause of obstructive jaundice.

CONCLUSION

In conclusion, our study identifies key markers for distinguishing benign from malignant obstructive jaundice. Itching, appetite loss, dark urine, and elevated ALP, bilirubin, and CA 19-9 levels are pivotal indicators. These findings aid clinicians in prompt diagnosis and treatment decisions. Further research is warranted to explore the clinical implications of these differences and their impact on patient care.

KEYWORDS

Benign obstructive jaundice, Malignant Obstructive Jaundice, CA-19-9

CORRELATION OF SEVERITY OF HYPONATREMIA WITH 3 MONTHS MORTALITY IN PATIENTS WITH LIVER CIRRHOSIS PRESENTING WITH HEPATIC ENCEPHALOPATHY

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INTRODUCTION

One of the leading causes of morbidity and mortality is hepatic cirrhosis worldwide. Complications such as ascites, variceal bleeding, and hepatic encephalopathy are frequently encountered in patients with cirrhosis. There is a high risk of hepatic encephalopathy in patients with liver cirrhosis with hyponatremia and associated with increased mortality.

OBJECTIVE

Our study sought to determine the frequency of hyponatremia in cirrhotic patients presenting with hepatic encephalopathy and compare 3 months of mortality with the severity of hyponatremia.

METHODOLOGY

This study was conducted in the gastroenterology department of Sheik Zayed hospital. A total of 145 patients of both gender fulfilling the inclusion criteria, with hepatic cirrhosis presenting with hepatic encephalopathy, were approached. After taking relevant history and physical examination venous blood sample of each patient was drawn and sent to the institutional laboratory for serum sodium, renal function tests, liver function tests, prothrombin time (PT), activated prothrombin time(aPTT), and international normalized ratio (INR). We classified the severity of liver disease according to child-Pugh score criteria. Serum sodium was classified as mild (130-134), moderate (125-129), and severe (less than 124). All data were analyzed by using SPSS statistics version 22.0.

RESULTS

Hyponatremia ranged from 118 to 134 mg/dl with a mean of 128.913. Hyponatremia was present in 61(42%) patients with hepatic encephalopathy. Among these 101 (69%) were male and 44 (30%) were female. Mild, moderate, and severe hyponatremia was observed in (9)14%, 38(63%), and 14(23%) of patients respectively. 3-months mortality was estimated to be in 43 patients (70.5%). Out of those 43 patients, 2 (22%) had mild hyponatremia, 29(76%) had moderate and 12(85.7%) had severe hyponatremia.

CONCLUSION

Hyponatremia is frequently observed in patients with hepatic encephalopathy and mortality increases with the severity of hyponatremia.

KEYWORDS

Hyponatremia, hepatic encephalopathy

PREVALENCE OF ACUTE KIDNEY INJURY IN PATIENTS WITH DECOMPENSATED CHRONIC LIVER DISEASE ATTENDING A TERTIARY CARE HOSPITAL

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INTRODUCTION

Acute kidney injury is a common and life-threatening event in patients with liver cirrhosis. Pre-renal acute kidney injury, the hepato-renal syndrome type of acute kidney injury and acute tubular necrosis represent the common etiologies.

OBJECTIVE

To determine the frequency of acute kidney injury in patients with decompensated chronic liver disease.

METHODOLOGY

STUDY DESIGN: Cross sectional study. **STUDY SETTING:** Study was conducted at Department of Gastroenterology and Hepatology, Liaquat University of Medical & Health Sciences, Jamshoro. **DURATION OF STUDY:** 9 months. **METHODS:** Quantitative and qualitative data was collected, presented and analyzed. Effect modifiers were controlled through stratification to see the effect of these on the outcome variable. Post stratification chi square test was applied taking p-value of ≤ 0.05 as significant.

RESULTS

A total of 100 patients who met the inclusion and exclusion criteria were included in this study. Mean age, duration of CLD, serum creatinine and serum sodium in our study was 51.14 ± 16.49 years, 3.72 ± 2.24 years, 2.89 ± 1.59 mg/dl and 130 ± 7.28 mg/dl respectively. 70 (70%) and 30 (30%) were male and female. Out of 100 patients, 26 (26%) and 74 (74%) had and did not have acute kidney injury.

CONCLUSION

AKI was common among patients with liver cirrhosis with high in-patient mortality.

KEYWORDS

Acute kidney injury, Decompensated liver disease, Hepatitis B and C.

REFLEX TESTING FOR HDV INFECTION IN HBV-POSITIVE INDIVIDUALS: A COMPREHENSIVE ANALYSIS IN SOUTH EAST ASIAN PATIENTS

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INTRODUCTION

Hepatitis D virus (HDV) infection occurs as a coinfection with hepatitis B and increases the risk of hepatocellular carcinoma, decompensated cirrhosis, and mortality compared to hepatitis B virus (HBV) mono infection. Reliable estimates of the prevalence of HDV infection and disease burden are essential to formulate strategies to find coinfecting individuals more effectively and efficiently. The most effective method to generate estimates of the prevalence of anti-HDV and HDV RNA positivity and to find undiagnosed individuals at the national level is to implement reflex testing. This study aimed to evaluate the efficacy of reflex testing strategies at Asian Institute of Medical Sciences for the early detection of HDV infection in HBV-positive individuals.

OBJECTIVE

Know the viral kinetics of Hepatitis B and D, Co-Infection as well as mono infection

METHODOLOGY

A retrospective analysis of medical records from a large cohort of HBV-positive patients was conducted at Aims, Hyderabad, Pakistan. Reflex testing for HDV was implemented using a two-step approach, beginning with serological markers followed by confirmatory molecular assays. Data on patient demographics, HDV sero prevalence, and clinical outcomes were collected and analyzed.

RESULTS

Result of the 1378 HBV Positive Individuals (459) 33.4 % were found to be co-infected with HDV upon reflex testing. Among the cohort, 321 (33.3 %) of HDV-positive individuals were male, highlighting a gender-based disparity in HDV co-infection rates. Additionally, the study examined age distribution and found that the age group of 20 to 30 years had the highest prevalence of HDV superinfection, with 141 cases, representing 31.1% of the total HDV-positive cases.

CONCLUSION

Reflex testing for HDV infection in HBV-positive individuals is crucial, especially for males and those in the 20 to 30-year age range, who appear to be at a higher risk. The findings suggest a need for targeted screening and intervention strategies to address this demographic trend. Early identification of HDV co-infection can guide appropriate management and reduce disease burden, underscoring the importance of reflex testing in these at-risk populations.

KEYWORDS

Hepatitis B, Hepatitis D

FREQUENCY OF PANCREATITIS IN PATIENTS DUE TO GALLSTONES

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INTRODUCTION

According to world statistics, approximately 20% of adults from the whole population are diagnosed with asymptomatic or silent gallstones in the United States of America and Europe [1]. However, among these 20 percent of people, only a small percent develop complications or symptoms [2]. Due to this, "silent" is the term assigned to most of these gallstones because they are often identified during abdominal investigations that were performed for other purposes [3]. There are also some people with gallstones for whom the complications and symptoms can be identified. These are painful symptoms of biliary colic that lead to acute cholecystitis or pancreatitis [4]. However, this is a rare condition and occurs in only 2 percent to 3 percent of cases [5]. An inflammatory problem of the pancreas is called acute pancreatitis. In almost 80% of people, this condition is self-resolving and mild, without any long-lasting consequences [6]. Acute pancreatitis involves a number of complex episodes, starting with injury to acinar cells of the pancreas. This leads to leakage and premature activation of pancreatic enzymes in the parenchyma [7]. Due to this condition, enzymes break down tissues and cells, causing oedema and hemorrhage. The biliary or pancreatic duct can be obstructed by gallstones, which leads to a rise in the duct pressure. Therefore, the unregulated activation of digestive enzymes increases the risk of pancreatitis [8]. The mortality rate in the case of gallstone pancreatitis (GSP) ranges from 1 percent to 3 percent [9]. In 90 percent of the people who are diagnosed with gallstone pancreatitis, the gallstones have been identified by ultrasonography. This shows that the stones usually pass through to the duodenum. There are certain risk factors that involve a number of stones. These stones have a diameter of <5 millimetres and a cystic duct with a large lumen [10]. There is a strong link between the risk of the occurrence of acute biliary pancreatitis and the size of the gallstone. The risk of the occurrence of acute pancreatitis increases when the gallstones are 90%. However, in the case of acute biliary pancreatitis, the sensitivity is <80% because of the distension of the bowel and ileus [11]. For the diagnosis of acute pancreatitis, the sensitivity of serum lipase is a little bit higher than the sensitivity of serum amylase. Hence, it is recommended that people who are diagnosed with acute pancreatitis undergo a serum lipase test for confirmation [12]. Therefore, this research was performed to identify the association between biliary pancreatitis and silent gallstones.

OBJECTIVE

This research was performed to identify the association between biliary pancreatitis and silent gallstones.

METHODOLOGY

The people who were involved in this research were those who were diagnosed with acute pancreatitis associated with silent gallstones. All the participants were of both genders and all ages. The most common thing that the participants complained about was pain in the upper abdomen, which spread to the back as well for about one to two weeks duration. The silent gallstones were confirmed using ultrasonography.

RESULTS

A total of 150 people were diagnosed with acute pancreatitis, and 97 people were diagnosed with acute biliary pancreatitis associated with the detection of gallstones. The mean age was 49.1 years. Females had a higher frequency of acute biliary pancreatitis.

CONCLUSION

People who are diagnosed with smaller gallstones are more likely to develop acute biliary pancreatitis.

KEYWORDS

Acute biliary pancreatitis, gallstones, silent gallstones,

OUTCOME OF UPPER GASTROINTESTINAL BLEEDING SECONDARY TO PEPTIC ULCER DISEASE: EXPERIENCE FROM KARACHI, PAKISTAN

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INTRODUCTION

Peptic ulcer disease (PUD) is characterized by discontinuation in the inner lining of the gastrointestinal tract. It is a leading cause of morbidity and mortality worldwide with 10 % prevalence among adult population, globally.

OBJECTIVE

To determine the outcome of upper gastrointestinal bleeding (UGIB) secondary to PUD

METHODOLOGY

This was a Retrospective, cohort study conducted at Gastroenterology department of JPMC, Karachi from Jan. 2022 till Dec. 2022. All patients with UGIB were included in the study. The data obtained was analyzed on the statistical software SPSS version 23. Descriptive statistics were obtained by frequencies and percentages.

RESULTS

Total 1098 patients with UGIB were evaluated, out of which 142(13%) patients had PUD. The mean age of patients was 53±19 years, 97(68.3%) were males and 45 (31.7%) were females. Most common presenting symptom was hematemesis 117 (82.4%). Among risk factors, the most frequent association was found to be with use of Non-steroidal anti-inflammatory drugs (NSAIDs) 113 (79.6%), followed by use of Hakeem medications 56(39%). Glasgow Blatchford score was calculated in emergency department, which was > 6 points in most patients 112 (78.9%) The most common endoscopic finding was of Forrest class (FC)-III ulcer 103 (75%), followed by FC I-B ulcer 13 (9.2%), FC II-B 11(7.7%), FC II-C 9 (6.3%) FC I-A 5 (3.5%), least was FC II-A 1 (0.7%) and first part of duodenum (D1) being the most common site 56 (39.4%). Most commonly done endoscopic intervention was adrenaline sclerotherapy 19 (13.4%). The hospital stay in most patients was <5 days 104 (73.3%). Rebleed occurred in 20(14.1%). However, 6 (4.2%) presented with recurrent bleed. 15(12.6%), died at first week and one month mortality was 7 (4.9%).

CONCLUSION

PUD if not diagnosed and treated promptly can lead to serious complication like UGIB. Due to advent of interventional endoscopy, UGIB can be managed quite efficiently as compared to the past and mortality is expected to reduce.

KEYWORDS

Upper gastrointestinal bleed, Peptic ulcer disease

A TERTIARY CARE EXPERIENCE WITH CLINICAL PRESENTATION AND SURVIVAL OF CHOLANGIOCARCINOMA IN OUR POPULATION

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INTRODUCTION

Cholangiocarcinoma (CCA) is biliary tract tumor, common cause of liver cancer and accounts for about 15% of the primary liver carcinoma worldwide. The overall incidence 1-2 cases per 100,000 & mortality rates of cholangiocarcinoma are rising unexpectedly across the world due to unknown reason.

OBJECTIVE

This study aims to determine the clinical features, survival of cholangiocarcinoma and associated factors leading to cholangiocarcinoma in patients presenting to a tertiary care hospital of Karachi

METHODOLOGY

This prospective observational study was conducted on patients with cholangiocarcinoma presenting consecutively to the department of Hepatogastroenterology, Sindh Institute of Urology and Transplantation from December 2013 to April 2015, All those patients of age 30 to 80 years of either gender with Cholangiocarcinoma will be included in the study. The exclusion criteria include patients who fail to give written consent, hemodynamically unstable patients, pt with Severe cardiac or pulmonary disease, End stage renal disease (ESRD), those who are having bleeding dyscrasias, common bile duct stone on ultrasonography, space occupying lesion of liver without involvement of biliary tree, gall bladder mass. The baseline variables such as demographic factors (sex, marital status, occupation and household income per month), type of CCA (intrahepatic or extra hepatic CCA, common factors like DM. Effect modifiers like age, sex, marital status, occupation and household income per month), type of CCA (intrahepatic or extrahepatic CCA) Effect modifier were stratified to see their effect on outcome, chi square test was applied, Viral serology and liver function tests were performed for each patient before undergoing endoscopic or percutaneous biliary drainage. Survival of each patient was determined through telecommunication. . A p-value <0.05 was considered statistically significant.

RESULTS

A total of 74 patients were included in study, of which 37 (50%) were males. Mean age at presentation was 53.80 ± 12 years. Most frequent clinical feature was jaundice 69 (89.3%), followed by dark urine 57 (73.3%), abdominal pain 56 (74%), weight loss 45 (60%), itching 36 (48%) and pale stool in 27 (36.5%) patients. The most frequently associated illnesses observed in this study were diabetes mellitus (DM) in 13 (17.3%), followed by hypertension 6 (8%), hepatitis C virus infection 6 (8.0%) and hepatitis B virus infection 3 (4.0%). Proximal cholangiocarcinoma was seen in 47 (62.7%) while distal in 13 (17.3%) cases. Proximal cholangiocarcinoma was associated with presence of diabetes mellitus (p=0.001) increased aspartate aminotransferase > 60 U/L (p=0.05), while no statistically significant association of distal cholangiocarcinoma with any co morbid was found. Biliary obstruction was relieved through endoscopic stenting in 67 (90.5%) patients (plastic 48, metallic 19) or percutaneous transhepatic route in 7 patients. Mean survival was found to be 75 days.

CONCLUSION

In this study cholangiocarcinoma affected younger patients with no gender predilection and involved the proximal portion more commonly than distal biliary tree. Despite biliary decompression, the survival was poor.

KEYWORDS

Cholangiocarcinoma; Diabetes mellitus, Jaundice

COMPARISON OF HEPATIC AND EXTRA HEPATIC SCORES IN PREDICTING MORTALITY IN PATIENTS WITH HEPATITIS C RELATED CIRRHOSIS

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INTRODUCTION

Certain prognostic scores such as Child Turcotte Pugh (CTP) score and MELD-Sodium (MELD-Na) scores are available showing independent predictors of mortality in patients with chronic liver disease. Cirrhotic patients are frail and increasingly vulnerable to psychological effects and increased rates of decompensation in cirrhotic patients. Recently, studies have shown the correlation of liver frailty index (LFI) with CTP and MELD-Na score in cirrhotic patients.

OBJECTIVE

Therefore, our aim was to compare the utility of CTP, MELD-Na and LFI in predicting mortality in patients with HCV associated cirrhosis.

METHODOLOGY

It was a prospective cohort study which was conducted at the Department of Hepatogastroenterology, Sindh Institute of Urology and Transplantation from January 2019-December 2021. All patients with HCV associated cirrhosis as per operational definition were enrolled in the study. While, those patients with conditions over estimating frailty such as cardiopulmonary disease osteoarthritis etc. or those with altered mentation, history of hepatocellular carcinoma were excluded from the study. Statistical analysis was performed using the SPSS software version 22. Area under the receiver operating curve (AUROC) was obtained for each CTP, MELD-Na and LFI individually and also for combination of these scores for the prediction of one month, three months and six months mortality in cirrhotic patients.

RESULTS

A total of 145 patients were included in the study. Among them, 98 (67.2%) were males. Seventy four (51%) patients belonged to CTP class B. Esophageal varices were noted in 83 (57%) patients. One month mortality was noted in 11 (7.6%), Three months mortality in 23 (15.9%) and six months mortality in 41 (39.4%) patients respectively. AUROC was highest for the combination of LFI and CTP (AUROC-0.845; $p < 0.001$) followed by the combination LFI plus CTP plus MELD -Na (AUROC-0.838; $p < 0.001$) in predicting six months mortality as compared to each of these scores individually while the AUROC was highest for combination of all the scores (LFI+CTP+MELD-Na) in predicting one month (AUROC-0.942; $p < 0.001$) and three months (AUROC-0.858; $p < 0.001$) mortality as compared to the other scores.

CONCLUSION

Extrahepatic component (LFI) has shown a significant impact in predicting mortality in cirrhotic patients and should also be incorporated along with hepatic scores (CTP and MELD-Na) in predicting the prognosis in this population. This will not only help in prioritizing the patients' management strategies but will also improve the overall survival in this population.

KEYWORDS

Predictors; mortality; hepatic; extrahepatic; Frailty

FREQUENCY OF SARCOPENIA IN PATIENTS WITH LIVER CIRRHOSIS

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INTRODUCTION

Sarcopenia is the most common feature of hepatic cirrhosis characterized by progressive loss of muscle mass and function and increases permanently the mortality and morbidity rates among those patients. The incidence of sarcopenia in cirrhotic patients ranged 40-70% associating with impaired quality of life and augmented rates of infection. No local studies are available in this regards and variation among existing literature. If the frequency of sarcopenia is found in significant percentage of patients, recommendation can be made to screen every patient of cirrhosis for sarcopenia.

OBJECTIVE

To determine the frequency of sarcopenia in patients with cirrhosis of liver

METHODOLOGY

Descriptive cross-sectional study

RESULTS

In this study, 183 patients with liver cirrhosis were enrolled. Among these patients, 125(68.3%) were males, while 58(31.7%) were females. Age range in this study was from 18 to 60 years with mean age of 36.27 ± 8.69 years. Mean BMI of patients was 27.6 ± 5.74 kg/m². Mean duration of cirrhosis was 4.8 ± 2.85 years. Frequency of sarcopenia was observed in 69(37.7%) patients with cirrhosis.

CONCLUSION

In this study, 183 patients with liver cirrhosis were enrolled. Among these patients, 125(68.3%) were males, while 58(31.7%) were females. Age range in this study was from 18 to 60 years with mean age of 36.27 ± 8.69 years. Mean BMI of patients was 27.6 ± 5.74 kg/m². Mean duration of cirrhosis was 4.8 ± 2.85 years. Frequency of sarcopenia was observed in 69(37.7%) patients with cirrhosis.

KEYWORDS

Liver cirrhosis, Sarcopenia, Child-Pugh Class.

VARIOUS PATTERNS OF LIVER FUNCTION TEST DERANGEMENT IN PATIENTS ON MAINTENANCE HEMODIALYSIS-A SINGLE CENTERED EXPERIENCE

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INTRODUCTION

Generally, derangements of liver function tests (LFTs) indicate hostility to hepatocytes; but in End stage renal disease patients it may also be an indicator of higher mortality. The derangement in LFTs may vary depending upon the etiology of liver damage and may be categorized into hepatocellular, cholestatic and mixed hepatocellular and cholestatic patterns.

OBJECTIVE

Therefore, our aim was to determine the frequency of various patterns of liver function tests derangement in patients.

METHODOLOGY

This was a cross sectional study which was conducted at the Department of Hepatogastroenterology, SIUT from June 14, 2022 to December 13, 2022. All the hemodialysis dependent patients visiting the outpatient department or admitted in the gastroenterology or nephrology unit of SIUT and met the inclusion criteria were included in the study. Informed written consent was obtained. Patient's age, gender, co-morbidities (diabetes mellitus, hypertension, and ischemic heart disease) and duration of dialysis will be recorded. Blood tests for total bilirubin, direct bilirubin, Alkaline Phosphatase (ALP), Aspartate Transaminase (AST), Alanine Transaminase (ALT), serum Gamma-glutamyl transferase (GGT), HbsAg and Anti HCV were obtained. Patients with deranged liver enzymes were then categorized into hepatocellular, cholestatic or mixed pattern.

RESULTS

In this study 91 patients were included to determine the frequency of various patterns of LFTs derangement in patients on maintenance hemodialysis for more than 1 year and the RESULTS were analyzed. In study population age of the patients ranged from 18 to 70 years (mean age: 44+15 years). Male were 65 (71.4%) and female were 26 (28.6%). The co-morbidities related to ESRD in our study population were diabetes mellitus (n=15), hypertension (n=17), ischemic heart disease (n=7) while rest of ESRD patients were not having any co-morbidity (n=52). These patients were on dialysis for 1-2 years (n=68), 3-4 years (n=16) and more than 4 years (n=7). The pattern of LFTs were hepatocellular (23 %), cholestatic (27.5 %) and mixed (49.5%). The mean value of AST was 227.8 U/l, ALT was 237.1 U/l while the mean of ALP and GGT were 311.8 and 214.8 IU/mL respectively.

CONCLUSION

The aminotransferase serum levels were slightly higher in the patients on hemodialysis. The aminotransferase serum levels were slightly higher in the patients on hemodialysis. Majority of patients are having mixed pattern of deranged LFTs. The result of the study can become base of future studies pertaining to the cause and workup of these deranged Liver function tests.

KEYWORDS

Deranged Liver function tests; hepatocellular pattern; cholestatic pattern; mixed hepatocellular and cholestatic patterns; End stage renal disease.

SOLID AND CYSTIC PANCREATIC LESIONS: FREQUENCY, HISTOPATHOLOGY AND FACTORS PREDICTING GOOD YIELD OF BIOPSY

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INTRODUCTION

Endoscopic ultrasound (EUS) is constantly gaining importance in evaluation of both solid (SPL) and cystic pancreatic lesion (CPL).

OBJECTIVE

In this study we report the frequency of various pancreatic lesions and factors determining the good yield of biopsy for pancreatic lesions.

METHODOLOGY

In this observational study, conducted from October 2020 to December 2022, patients found to have either SPL or CPL on radiological imaging were included. EUS scope (EG38 J10UT, Pentax) and fine needle aspiration (FNA) or biopsy (FNB) needles were used for fluid aspiration or tissue acquisition. Morphology of the lesion (site, size etc.) and type of needle (FNA vs FNB, 19 gauge (G) vs 22G) utilized were recorded. Factors predicting good histological yield were statistically determined.

RESULTS

Total 174 patients were included [males 93 (53.8%)]. Among these, SPLs were found in 118 (68%) while CPLs in 56 (32%) patients. Among the SPL, commonest were adenocarcinoma 33 (28%) followed by neuroendocrine tumor (NET) 10 (8.4%), mass forming chronic pancreatitis 5 (4.2%) and high grade dysplasia 5 (4.2%), while 37 (31.4%) showed non-specific findings. Most common CPL were pancreatic pseudocyst 38 (69.1%) followed by serous cystadenoma 7 (12.7%), IPMN 4 (7.3%) and MCN 3 (5.3%). Factors associated with good diagnostic histologic yield for SPLs were located of lesion in body/tail (vs head) of pancreas ($p<0.001$), size of lesion ≥ 12 mm ($p<0.001$), use of FNB (vs FNA) needle ($p=0.004$), 19G (vs 22G) needle ($p=0.003$), ≥ 3 needle passes ($p=0.003$), use of FNB needle and ≥ 3 passes were independently associated with good histological yield of the SPLs.

CONCLUSION

Pancreatic adenocarcinoma and pseudocysts were the commonest solid and cystic pancreatic lesions respectively. Lesion size >12 mm, wider bore and core biopsy needle and ≥ 3 needle passes were independently associated with good histological yield.

KEYWORDS

Endoscopic ultrasound; Solid pancreatic lesion; Cystic pancreatic lesion; Diagnostic

FACTORS ASSOCIATED WITH HEPATITIS B SURFACE ANTIGEN CLEARANCE IN HEMODIALYSIS PATIENTS

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INTRODUCTION

Hemodialysis is a route to many infections with hepatitis B one of the most commonly encountered pathogen. The data regarding the factors predictive of hepatitis B surface antigen (HBsAg) clearance in hemodialysis patients is scarce.

OBJECTIVE

Therefore, our aim was to determine the rate of hepatitis B surface antigen clearance in hemodialysis patients and also to identify the factors predictive of HBsAg clearance in this population.

METHODOLOGY

It was prospective cohort study which was conducted at the department of Hepatogastroenterology, Sindh Institute of Urology and Transplantation. All the patients with chronic hepatitis B undergoing hemodialysis From January 2019 to December 2020 were included in the study. While, those patients with HBV and hepatitis D co-infection or those with HBV and hepatitis C co-infection or HBV and HIV co-infection were excluded from the study. Patients were followed for two years to look for rate of HBsAg clearance. Univariate followed by multivariate logistic regression analysis was performed to identify independent predictors of HBsAg loss in hemodialysis patients.

RESULTS

A total of 213 patients with chronic HBV undergoing hemodialysis patients were included in the study. Out of them, 163(76.5%) were males. At baseline, HBsAg levels > 1000 IU/ml were noted in 159(74%) patients, HBV DNA > 5000 were observed in 109(51.1%) and HbeAg positive disease was noted in 52(24.4). Most of the patients i.e. 152(71.3%) underwent single session of hemodialysis per week. HBsAg loss was noted in 26(12%) patients. On univariate analysis, HBsAg levels < 1000 IU/ml, HBV DNA levels < 5000 IU/ml, HBeAg negative disease and multiple sessions of hemodialysis was associated with increased HBsAg loss while on multivariate analysis, HBV DNA levels of less than 5000 IU/ml at baseline and multiple sessions of hemodialysis were independent predictors of HBsAg loss in hemodialysis patients.

CONCLUSION

The rate of HBsAg clearance is high in hemodialysis population especially those with HBeAg negative at baseline. HBsAg clearance in hemodialysis patients is associated with decreased HBV DNA levels at baseline and multiple sessions of hemodialysis per week.

KEYWORDS

HBsAg loss, hemodialysis, HBV DNA

FACTORS PREDICTING MORTALITY IN CHOLANGIOCARCINOMA IN PATIENTS UNDERGOING ENDOSCOPIC BILIARY DRAINAGE

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INTRODUCTION

Cholangiocarcinoma (CCA) is biliary tract tumor, common cause of liver cancer and is the second most common cause of hepatobiliary malignancy after hepatocellular carcinoma.

OBJECTIVE

Therefore, our aim was to determine the independent predictors of mortality in cholangiocarcinoma.

METHODOLOGY

It was a retrospective study and included all the patients of CCA undergoing ERCP admitted in the Department of Hepatogastroenterology, SIUT from January 2018 to December 2020. Those with missing data were excluded from the study. The outcome was observed in terms of one year mortality. Statistical analysis was performed using SPSS version 23.0. Univariate followed by multivariate logistic regression analysis was performed to identify the independent predictors of mortality in patients with CCA.

RESULTS

A total of 82 patients were included in the study. Among them, 42(51.2%) were males. Most common presenting complaint was obstructive jaundice noted in all the patients followed by abdominal pain in 64(78%) patients, weight loss and itching in 46(56.1%) and 45(54.9%) patients respectively. Proximal cholangiocarcinoma was the most common type observed in 53(64.6%) patients. Proximal cholangiocarcinoma was the most common anatomical type of CCA observed in 53(64.6%) patients. Forty (48.8%) patients had advanced disease at the time of presentation. All the patients underwent ERCP and plastic stent was placed in 68(82.9%) and metallic stent was placed in 14(17.1%) patients respectively. One year mortality was observed in 41(50%) patients. On multivariate analysis, increased total leucocyte count and the presence of diabetes mellitus were the factors that were independent predictors of mortality in cholangiocarcinoma.

CONCLUSION

The presence of comorbidities like diabetes and the patients presenting with cholangitis had a high risk of mortality in patients with cholangiocarcinoma. Despite biliary decompression, survival rates are dismal in such population.

KEYWORDS

Cholangiocarcinoma; Survival; Predictors

NON-INVASIVE PREDICTORS OF HEPATORENAL SYNDROME IN DECOMPENSATED CHRONIC LIVER DISEASE

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INTRODUCTION

Hepatorenal syndrome (HRS) is a frequent complication of advanced decompensated chronic liver disease (DCLD) that is associated with high morbidity and mortality.

OBJECTIVE

Our aim was to identify non-invasive predictors of Hepatorenal syndrome in DCLD patients.

METHODOLOGY

It was a retrospective study which was carried out at the department of Hepatogastroenterology, Sindh Institute of Urology and Transplantation. All patients admitted with DCLD from June 2018 to December 2021 were included in the study. Univariate analysis followed by the multivariate analysis was performed to identify noninvasive predictors of HRS.

RESULTS

The total number of patients included in the study were 199. Out of them, 124(62.1%) were males. Most common cause of chronic liver disease was hepatitis C noted in 57(28.6%) patients. Ascites was noted in 165(82.9%) patients. HRS was noted 78(39.2%) patients while SBP was seen in 65(32.7%) patients. Age greater than 40 years, Child Turcotte Pugh score >13, Hemoglobin less than 10 g/dl, Total leucocyte count >11 x10⁹/L and urea > 30 mg/dl were found to be independent predictors for the development of HRS.

CONCLUSION

These strong predictors of HRS can help in prevention, early diagnosis and prompt treatment of the patients with HRS and improving the overall survival in DCLD.

KEYWORDS

Decompensated Chronic Liver Disease; Hepatorenal Syndrome; Predictors

ROLE OF “MANLATA MODEL” IN PREDICTING RECURRENCE IN PATIENTS WITH HEPATOCELLULAR CARCINOMA UNDERGOING TRANS ARTERIAL CHEMO-EMBOLIZATION

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INTRODUCTION

Hepatocellular carcinoma (HCC) represents the sixth most common neoplasm in terms of incidence and the third leading cause of cancer death. Unfortunately, most of patients with HCC are diagnosed at an advanced stage and are treated by the palliative options. Transarterial chemoembolization (TACE) is the best therapeutic option in this situation.

OBJECTIVE

Our aim was to identify the non-invasive predictive factors and to build a model using these predictors suggestive of post TACE recurrence of HCC

METHODOLOGY

It was a retrospective study which included all the patients aged 18-65 years with HCC undergoing TACE from January 2010 to December 2018. While, the patients with early stage HCC undergoing resection, advanced staged HCC bearing portal vein thrombosis, metastatic HCC, patients with poor ECOG status and advanced child class were excluded. Univariate and multivariate logistic regression analysis was performed to identify the independent predictors of post TACE recurrence. A model was then developed for which AUROC was obtained and at an optimal cutoff, the diagnostic accuracy of the model was obtained.

RESULTS

A total of 323 patients were included in the study. Among them, 281 (87%) were males. Baseline characteristics of all patients undergoing TACE were recorded. On multivariate analysis, male, gender, age > 50 years, tumor size > 5cm, serum albumin 300 ng/ml, neutrophil count >60 % and lymphocyte count 7, it had an excellent sensitivity of 98%, specificity of 86.8% and diagnostic accuracy of 93% in predicting post TACE recurrence.

CONCLUSION

The non-invasive model had an excellent diagnostic accuracy in predicting post TACE recurrence. However, further studies comprising of large sample sizes are required to validate this model.

KEYWORDS

TACE, HCC recurrence, noninvasive model

FACTORS PREDICTING PORTAL BILIOPATHY IN PATIENTS WITH EXTRAHEPATIC PORTAL VEIN OBSTRUCTION

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INTRODUCTION

Extrahepatic portal vein obstruction is a pre-hepatic cause of portal hypertension which is classified in to acute and chronic on the basis of absence and presence of portal cavernoma and duration of symptoms. Portal biliopathy (PB) leads to cavernoma formation resulting in bile stasis, formation of bile stones and strictures. Prospective studies have shown that 81% to 100% of patients with EHPVO have PHB on ERC.

OBJECTIVE

Therefore, our aim was to determine the factors predicting PB in extra-hepatic portal vein obstruction.

METHODOLOGY

This retrospective study was conducted at the Department of Hepatogastroenterology, Sindh Institute of Urology and Transplantation. All the patients with diagnosis of Extra Hepatic Portal Vein Obstruction (EHPVO) from January 2013 to December 2022 were enrolled in the study. While, the patients with chronic liver disease and presenting with portal vein thrombosis or those with HCC with PVT, history of liver transplantation presenting with PVT and those EHPVO patients with history of shunt surgery or any other surgical intervention were excluded. The data was analyzed using the SPSS software version 22.0. Statistically significant variables on univariate analysis then subsequently underwent multivariate analysis to identify independent predictors of PB in extrahepatic portal vein obstruction.

RESULTS

Total number of patients included in the study were 76. Out of them, 60(78.9%) were males. Most common presenting complain was gastrointestinal bleed noted in 56(73.7%) patients followed by jaundice in 32(42.1%) and cholangitis in 27(36.5%) patients. Esophageal varices were noted in 42(55.3%) patients. Four (5.4%) patients had history of splenectomy. On MRCP, PB was noted in 28(36.8%) patients. All of these patients underwent ERCP with 19(25%) underwent once while 9(11.8%) patients underwent multiple ERCP procedures. On multivariate analysis, increased spleen size along with raised serum bilirubin, Gamma Glutamyl Transpeptidase, Total Leucocyte count and decreased platelets count were independent predictors of PB in EHPVO.

CONCLUSION

PB is a real complication of portal hypertension. Early identification in patients with the above mentioned predictors by the use of MRCP can prevent the patient from developing cholangitis and improving both the morbidity and mortality in patients with EHPVO.

KEYWORDS

Portal biliopathy; extrahepatic; predictors; cholangitis; ERCP

PREDICTORS OF CIRRHOTIC CARDIOMYOPATHY IN HEPATITIS C ASSOCIATED CIRRHOSIS

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INTRODUCTION

Cirrhotic cardiomyopathy characterized by the functional and structural abnormalities like ventricular hypertrophy, systolic and diastolic dysfunction in the absence of any cardiac disease initially manifesting as diastolic dysfunction in cirrhotic patients even before systolic dysfunction ensues.

OBJECTIVE

Therefore, our aim was to identify the factors predictive of cardiomyopathy in patients with hepatitis C associated cirrhosis.

METHODOLOGY

This was a cross sectional study which was conducted at the Department of Hepatogastroenterology, SIUT from January 2022 to October 2022. All patients with hepatitis C associated cirrhosis as per operational definition were included in the study. Excluded patients include those with prior history of anemia, cardiac failure, history of ischemic heart disease, heart block or valvular heart disease, patients with diabetes, hypertension, hyperlipidemia and those with history of smoking. Data was analyzed using SPSS software version 23.0. Statistically significant variables on univariate analysis then subsequently underwent multivariate analysis to identify the predictors of cardiomyopathy in cirrhotic patients.

RESULTS

A total of 155 patients were included in the study. On ultrasound, spleen > 16cm was observed in 55(35.3%) while ascites was noted in 103(66%) and esophageal varices in 105(67%) patients respectively. On multivariate analysis, serum albumin less than 2.8 g/dl, presence of spleen size greater than 16 cm on ultrasound and presence of esophageal varices were independent predictors of cardiomyopathy in cirrhotic patients.

CONCLUSION

The severity of liver dysfunction and the presence of portal hypertension were independently associated with the development of cirrhotic cardiomyopathy. Therefore, such patients should be referred earlier and prioritized for the liver transplantation.

KEYWORDS

Cardiomyopathy; cirrhosis; predictors

PREDICTORS OF FRAILITY IN PATIENTS WITH HEPATITIS C ASSOCIATED LIVER CIRRHOSIS

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INTRODUCTION

Approximately 43 percent of the cirrhotic patients with advanced disease are frail. Frailty is associated with psychosocial effects, increased rates of hepatic decompensation, hospital stay, delisting from transplant list and post-transplant ramifications.

OBJECTIVE

Our aim was to identify factors that are independent predictors of frailty in patients with hepatitis C associated cirrhosis.

METHODOLOGY

This was a cross sectional study which was conducted at the Department of Hepato-gastroenterology, Sindh Institute of Urology and Transplantation from 1st March 2022 to 31st August 2022. All the patients of either gender diagnosed with hepatitis C associated chronic liver disease and aged between 18-70 years with features of cirrhosis on ultrasound abdomen were included in the study. Patients with conditions over estimating frailty such as cardiopulmonary disease, hepatocellular carcinoma etc. were excluded from the study. Liver frailty index (LFI) was calculated using Grip strength measured in kilograms, timed chair stands and balance testing. Patients with LFI >4.5 were considered frail. All data was entered and analyzed using SPSS version 22.0. Continuous variables were analyzed using student-t test while categorical variables were analyzed using Chi square test. Statistically significant variables on univariate analysis, underwent multivariate analysis to identify independent predictors of frailty in cirrhotic patients. A p-value of < 0.05 was considered statistically significant.

RESULTS

A total of 132 patients were included in the study. Out of them, 89(67.4%) were males. Mean CTP score was of 8.1±2.1, MELD-Na score of 14.8±6.5 and LFI of 4.1±0.83. On univariate analysis, female gender, advanced age, increased Total Leucocyte count (TLC), percentage of neutrophils on peripheral smear, serum creatinine, total bilirubin, prothrombin time, Child Turcotte Pugh (CTP) score and Model for End stage Liver Disease-Sodium (MELD-Na) score while decreased Hemoglobin and serum albumin were associated with increased frailty in patients with cirrhosis. On multivariate analysis, female gender, age >40 years, Hemoglobin of 60% on peripheral smear were independent predictors of liver frailty in cirrhotic patients.

CONCLUSION

Female gender, advanced age, increased neutrophils on peripheral smear and decreased hemoglobin were independent predictors of increased frailty in patients with chronic liver disease. However, further studies comprising large sample sizes are required to validate these predictors.

KEYWORDS

Hepatitis C; predictors; frailty

FACTORS PREDICTIVE OF LEAN NON-ALCOHOLIC FATTY LIVER DISEASE IN PAKISTANI POPULATION

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INTRODUCTION

Nonalcoholic fatty liver disease (NAFLD) is one of the most prevalent causes of chronic liver disease among the western countries with incidence rising in developing countries. In Pakistan estimated prevalence is 14-47%. However some studies have demonstrated that NAFLD is also not uncommon among the non-obese lean population.

OBJECTIVE

The aim was to evaluate the factors predictive of lean Non-alcoholic Fatty Liver Disease in Pakistani population of NAFLD among the non-obese lean population using standard Body mass index (BMI) < 23 kg/m².

METHODOLOGY

It was a cross-sectional study which was conducted at the department of hepatogastroenterology, Sindh Institute of Urology and Transplantation from 1 st November 2020 to 31st October 2021. All patients with BMI < 23 kg/m² were included in the study. All the data were entered and analyzed by statistical Package for the Social Sciences (SPSS) version 22.0. A fasting percutaneous abdominal ultrasound was performed in all the patients. Presence or absence of fatty liver on ultrasound abdomen was the outcome variable. RESULTS were expressed as mean \pm standard deviation for quantitative data or as numbers with percentages for qualitative data. Continuous variables were analyzed using the Student t-test, while categorical variables were analyzed using Chi-square test. Statistically significant variables on univariate analysis underwent multivariate logistic regression analysis to identify the independent predictors of lean NAFLD.

RESULTS

A total of 194 patients with BMI less than 23 kg/m² were included in the study. Out of them 107 (55.2%) were females Mean age was 36.1 \pm 9.6 years. On ultrasound NAFLD was present in 48 (24.7%) patients. Among the studied population, 78 (40.2%) patients were hypertensive, 40(20.6%) were diabetic and 49(25.3%) patients were smokers. Increased triglyceride levels were noted in 54(27.8%) patients. In our study, diabetes, smoking, hypertriglyceridemia and decreased High Density Lipoprotein-Cholesterol (HDL-C) levels were independently associated with lean NAFLD.

CONCLUSION

Patients with body mass index less than 23 kg/m² may develop NAFLD and ultimately they may develop associated complications. Lean NAFLD population has statistically significant association with diabetes, smoking, hypertriglyceridemia and decreased HDL-C levels. However data regarding its risk factors and behavior of the disease is scarce and further studies are needed for the better understanding of the disease.

KEYWORDS

Non-alcoholic fatty liver disease, lean NAFLD, Body mass index, Pakistan

CLINICAL CHARACTERISTICS AND BARCELONA CLINIC LIVER CANCER STAGING IN PATIENT WITH HEPATOCELLULAR CARCINOMA AT INITIAL PRESENTATION A SINGLE CENTRE EXPERIENCE

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INTRODUCTION

Primary liver cancer is the seventh most frequently occurring cancer in the world and the second most common cause of cancer mortality.¹ globally, hepatocellular carcinoma (HCC) is the dominant type of liver cancer, accounting for approximately 75% of the total. Incidence rates of HCC have been decreasing in some high-rate areas but increasing in many low-rate areas.^{2, 3} in 2018, the estimated global incidence rate of liver cancer per 100,000 person-years was 9.3 while the corresponding mortality rate was 8.5.

OBJECTIVE

To determine the frequency of BCLC stages in patients presenting with HCC in a tertiary care hospital.

METHODOLOGY

This was cross sectional prospective study conducted at gastroenterology department of Jinnah postgraduate medical center Karachi, from January 2018 to December 2022. Data was assessed using SPSS version 25. All patients of either gender with diagnosed HCC were included in the study.

RESULTS

Total 566 patients included in the study with mean age of 59.3 ± 9 out of which 328 (58%) were males and 237(42%) were females with the mean MELD score of 15 ± 6 . The most common cause of HCC was HCV 396(70%). the most common presenting complain was Abdominal distention and abdominal pain followed by upper gastrointestinal bleeding. BCLC staging was done and most of the patients fall in category BCLC-D 226(40%) followed by BCLC-C 203(36%).

CONCLUSION

It is evident from the study that most of the patient diagnosed with HCC lies in category BCLD D followed by C on initial presentation with history of abdominal pain as most common symptom. We recommend early detection of HCC so better treatment options can be offered to the patients.

KEYWORDS

BCLC

RISK FACTORS OF ASCENDING CHOLANGITIS DEVELOPING AFTER ENDOSCOPIC BILIARY STENTING

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INTRODUCTION

Ascending cholangitis is associated with increased morbidity and mortality in patients with history of ERCP.

OBJECTIVE

We aimed to identify the risk factors of ascending cholangitis following endoscopic biliary stent placement.

METHODOLOGY

In this cross-sectional study, all the patients presenting at hepatobiliary clinic at least two weeks after biliary stenting were included in the study. While, the patients who subsequently found to have cholangitis due to causes e.g. stent occlusion, stent migration, sepsis, urosepsis, pneumosepsis and patients whose biliary drainage was achieved through percutaneous biliary drain (PTBD) placement were excluded. Presence or absence of ascending cholangitis was recorded. Univariate followed by multivariate cox regression analysis was performed to identify independent predictors of ascending cholangitis.

RESULTS

A total of 128 patients were included in the study. Among them, 70(54.7%) were males. Most common indication for ERCP was CBD stricture noted in 87(68%) patients. Sixty six (51.6%) patients underwent two or more ERCP sessions. Papillotomy was performed in 69(53.9%) patients while sphincteroplasty was done in 38(29.7%) patients. Post ERCP, 53(41.4%) patients had a hospital stay of more than 3 days. Ascending cholangitis developed in 27(21%) patients. The presence of diabetes, prior history of multiple ERCP, papillotomy performed during ERCP and antibiotics given for short duration after ERCP were associated with increased risk of ascending cholangitis.

CONCLUSION

The risk factors associated with development of ascending cholangitis were recorded. Prolonged usage of antibiotics after ERCP in patients with these risk factors can decrease the risk of developing ascending cholangitis.

KEYWORDS

ERCP, papillotomy, impaired gut motility

UTILITY OF ENDOSCOPIC ULTRASOUND GUIDED STRAIN RATIO IN DIFFERENTIATION OF HEPATOBILIARY LYMPH NODES

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INTRODUCTION

Tumor staging and prognosis heavily relies on the characterization of the adjacent lymph nodes. There are certain lymph nodes that are not accessible by the percutaneous route. Previously, different studies have shown the utility of Endoscopic ultrasound guided strain ratio (EUS-SR) in differentiating benign from malignant lymph nodes.

OBJECTIVE

Therefore, our aim was to determine the utility of EUS-SR in differentiating benign from malignant hepatobiliary lymph nodes.

METHODOLOGY

It was a cross-sectional study which included 54 patients referred for EUS for hepatobiliary lymph node biopsy. All patients underwent Endoscopic ultrasound guided strain ratio (SR) followed by the fine needle biopsy of the lymph node to confirm the nature of the disease. AUROC was obtained for SR and at an optimal cutoff, diagnostic accuracy was obtained.

RESULTS

A total of 54 patients were included in the study. Out of them, 28(51.9%) were males. Porta hepatis lymph node biopsy was performed in 43(79.6%) patients while 11(20.4%) patients underwent peri-pancreatic lymph node biopsy. Malignancy was confirmed in 22(40.7%) patients on FNB of lymph nodes while 32(59.3%) patients had benign disease. Among the malignant lymph nodes, lymphoma was noted in 6(27.3%), metastasis from pancreatic cancer in 5(22.7%), cholangiocarcinoma in 4(18.2%), gall bladder cancer in 2(1%) and hepatocellular carcinoma and neuroendocrine each in 1(0.45%) patient respectively. Tuberculosis was observed in 6(11.1%) patients undergoing hepatobiliary lymph-node biopsy. Mean SR was 73.6+81. AUROC obtained for SR in predicting malignant lymph nodes was 0.891(p<0.001), SR had a sensitivity of 91%, specificity of 84% and diagnostic accuracy of 87% in predicting malignant lymph nodes.

CONCLUSION

The yield of EUS in characterizing benign and malignant hepatobiliary lymph nodes has increased with the use of EUS-SR, showing an excellent sensitivity, specificity and diagnostic accuracy and thus can aid in avoiding the unnecessary biopsies. However, further studies with large sample sizes are required to validate this data.

KEYWORDS

Endoscopic Ultrasound, hepatobiliary, lymph node, Strain Ratio

UTILITY OF WAIST TO HEIGHT RATIO (WHR) AND FATTY LIVER INDEX (FLI) IN PREDICTING LEAN NON-ALCOHOLIC FATTY LIVER DISEASE (NAFLD) PATIENTS IN PAKISTANI POPULATION

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INTRODUCTION

Worldwide prevalence of NAFLD is 25%. Prevalence in Asian countries is 15–45%. Prevalence in Pakistan is 18%. Various obesity indices based on anthropometric measurements have been developed to identify NAFLD. Non-invasive indices of NAFLD are helpful in predicting NAFLD without a liver biopsy.

OBJECTIVE

To determine the diagnostic utility of waist to height ratio (WHR) and fatty liver index (FLI) in predicting lean NAFLD.

METHODOLOGY

This was a cross-sectional study, conducted from 1st January 2020 to 30th June 2022. All patients of either gender or ages ranging from 18-70 years, with BMI <23 kg/m² were included in the study. Weight to height ratio (WHR) and Fatty Liver Index was obtained. AUROC was obtained for WHR and FLI in predicting lean NAFLD at an optimal cutoff, diagnostic accuracy was calculated for these in predicting lean NAFLD in Pakistani population

RESULTS

There were 251 patients included in the study. There were more females i.e., 138(55%) than males. Hypertension was present in 114 patients (45.4%). Around two third of the patients were smokers-167(66.5%). Hypertriglyceridemia was found in 102 (40.6%) patients. Diabetes was present in 70 (27.9%) patients whereas Lean NAFLD was found in 130 (51.8%) patients. Waist circumference, WHR and FLI were significantly associated in predicting lean NAFLD. AUROC for FLI and WHR in predicting lean NAFLD was (0.972) (p-value <0.001) and (0.973) (p-value <0.001) respectively.

CONCLUSION

Low waist to height ratio (WHR) and fatty liver index (FLI) were significantly associated with the non-alcoholic fatty liver disease in non-obese Pakistani population with an excellent specificity, positive predictive value and diagnostic accuracy. However, further studies comprising larger sample sizes are required to validate these RESULTS.

KEYWORDS

Lean NAFLD, FLI, WHR

FACTORS PREDICTING MORTALITY IN PATIENTS WITH SBP

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INTRODUCTION

Limited studies are available regarding the prediction of mortality in patients with Spontaneous Bacterial Peritonitis (SBP). Recently, multiple factors have been studied for their role in predicting mortality in SBP.

OBJECTIVE

Therefore, our aim was to identify the predictors of mortality in patients with SBP.

METHODOLOGY

This was a prospective, observational study that was conducted in Hepato-gastroenterology Department of Sindh Institute of Urology and Transplantation (SIUT), Karachi from January 2020 to December 2021. All the patients diagnosed with SBP as per operational definition were included in the study. While, those patients on dialysis or those with Hepatocellular carcinoma or any other malignancy as per history or prior history of solid organ transplant or history of HIV infection or those underlying systemic sepsis or infections other than SBP were excluded from the study. The outcome was measured in terms of mortality in these patients which was assessed at six months. All the data was analyzed using SPSS version 23.0. Statistically significant variables on univariate analysis then subsequently underwent multivariate cox regression analysis to identify independent predictors of mortality in SBP.

RESULTS

Total number of cirrhotic patients included in study were 123. Majority of the patients belong to Child Turcotte Pugh (CTP) class C (n = 88; 71%). Two third of the patients (65.8%; n = 81) had viral hepatitis i.e., hepatitis B, D and/or C, as the cause of cirrhosis. Overall mortality was observed in 51(41.5%) patients. On multivariate analysis, high Serum Total Leucocyte Count (TLC), Model for End stage Liver Disease (MELD) and Child Turcotte Pugh Class at presentation along with high Ascitic fluid lactate levels were independent predictors of mortality in SBP.

CONCLUSION

Cirrhotic patients with SBP are at increased risk of mortality. Prognostic scores such as CTP and MELD score along with high serum TLC and fluid lactate levels at presentation are the potential and reliable predictors of mortality in SBP patients.

KEYWORDS

SBP; mortality; predictors; cirrhosis

UTILITY OF ALANINE TRANSAMINASE TO ASPARTATE TRANSAMINASE IN PREDICTING LEAN NON ALCOHOLIC FATTY LIVER DISEASE IN PAKISTANI POPULATION

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INTRODUCTION

Obesity is associated with increased risk of Non-alcoholic Fatty Liver Disease (NAFLD). Incidence of NAFLD is noted to be increasing in non-obese population. ALT/AST ratio has been used as a non-invasive marker to predict hepatic steatosis.

OBJECTIVE

Therefore, our aim was to predict the diagnostic accuracy of ALT/AST in predicting lean NAFLD in Pakistani population.

METHODOLOGY

This was a cross-sectional study which was conducted at the department of Hepatogastroenterology from January 2021 to June 2022. All patients aged between 18 to 70 years were enrolled in the study. Patients with BMI ≤ 23 kg/m² were included in the study. While, those who were obese (i.e. BMI > 23 kg/m²), having history of diabetes or any chronic liver disease at baseline or those with history of alcohol intake were excluded from the study. All the patients underwent laboratory investigations and percutaneous ultrasound abdomen for fatty liver at baseline. Clinical characteristics of the patients were recorded. Continuous variables were analyzed using student T test while categorical variables were analyzed using Chi square test. ALT/AST ratio was calculated. AUROC was obtained for ALT/AST in predicting NAFLD in lean population. A cutoff was taken, at which the sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV) and diagnostic accuracy was obtained.

RESULTS

Total number of patients included in the study were 135. Among them, 74(54.8%) were females. Mean age 37 ± 10 years. Mean BMI was 20.9 ± 1.8 kg/m². Sixty two (45.9%) patients had fatty liver on the baseline ultrasound. Hypertriglyceridemia was noted in 53(39.3%) patients. Eating habits were regular in 73(54.7%) patients while irregular and binge eating habits were noted in 48(35.6%) and 14(10.4%) respectively. Mean ALT was 44 ± 28 IU/L while mean AST was 26 ± 11.6 IU/L. AUROC for ALT/AST was 0.81. At a cut off of ≥ 1.1 , the sensitivity was 90.32%, specificity of 56.16%, positive predictive value of 63.64%, NPV of 87.23% and diagnostic accuracy of 71.85% in predicting lean NAFLD.

CONCLUSION

ALT/AST ratio is a marker of hepatic steatosis and can be easily utilized as a non-invasive predictor of lean NAFLD in patients with risk factors for fatty liver disease. However, studies comprising larger sample sizes are required to validate this ratio.

KEY WORDS

Lean NAFLD, ALT/AST, hepatic steatosis

FREQUENCY OF PORTAL VEIN THROMBOSIS IN CASES OF HEPATOCELLULAR CARCINOMA

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INTRODUCTION

Hepatocellular carcinoma is the most common primary liver cancer, the sixth most common cancer overall, and the third most common cause of cancer related death worldwide.¹ It is responsible for over 700,000 deaths annually.² Two most important risk factors for hepatocellular carcinoma are chronic hepatitis caused by hepatitis B and hepatitis C infections worldwide.³ In patients with hepatitis C related cirrhosis, the risk of developing hepatocellular carcinoma is approximately 1-7% per year.⁴⁻⁵ In Pakistan prevalence of hepatocellular carcinoma varies from 3.7 to 16% of all malignant tumour.⁶ When hepatocellular carcinoma related to hepatitis C and hepatitis B was compared, prevalence of hepatitis C is 64%. Patients with hepatitis C related hepatocellular carcinoma are more likely to be cirrhotic and have high rate of macro-vascular involvement.⁶ Statistics reveal that hepatitis C is dominant in causing hepatocellular carcinoma among viral hepatitis in developing countries like Pakistan due to high burden of hepatitis C compared to hepatitis B.⁶⁻⁷ Portal vein thrombosis is a common complication of hepatocellular carcinoma, which is associated with a poor prognosis.⁸ Approximately 10%-40% patients with hepatocellular carcinoma have portal vein thrombosis at the time of diagnosis,⁸⁻¹⁰ and approximately 35%-44% will be found to have portal vein thrombosis at the time of death or liver transplant.¹¹ Patients with portal vein thrombosis are more likely to have metastatic disease at diagnosis, have fewer therapeutic options, and have shortened overall survival compared to patients without portal vein thrombosis.¹² In patients with portal vein thrombosis treated with supportive care, studies have reported overall survival ranging from two to four months, compared to 10-24 months in hepatocellular carcinoma patients without portal vein thrombosis.⁹⁻¹² Thrombus involving the main portal vein is a worse prognostic factor than thrombus involving a branch portal vein.¹³ In a study, 28% were found to have portal vein thrombosis in hepatocellular carcinoma patients.¹⁴ In another study, 13.7% were found to have portal vein thrombosis.¹⁵ In another study, 29% were found to have portal vein thrombosis in hepatocellular carcinoma patients.¹⁶ The rationale of this study is to find frequency of portal vein thrombosis in hepatocellular carcinoma cases in our local population. Local studies on this topic are very scarce. However available literature showed variation in frequency of portal vein thrombosis in patients with hepatocellular carcinoma ranged from 13.7% to 29%. Furthermore, currently screening of portal vein thrombosis is not recommended in all patients with hepatocellular carcinoma. So this study is important to be done to know the exact frequency of portal vein thrombosis, if we find higher frequency then such cases must be screened and managed in order to reduce morbidity.

OBJECTIVE

To determine the frequency of portal vein thrombosis in hepatocellular carcinoma

METHODOLOGY

Total 130 patients with HCC were enrolled in this study. Portal vein thrombosis was assessed as per operational definition. All the data (age, gender, residence, AFP levels, duration of HCC, Hep B, Hep C, and PVT) was collected. SPSS v25.0 was used for data compilation and analysis. Effect modifiers like age, gender, residence, duration of HCC, Hep B, Hep C and AFP levels were controlled through stratification. Post-stratification, Chi-square/Fischer Exact test was applied. A p-value ≤ 0.05 was considered as significant.

RESULTS

In this study, 130 patients with HCC were enrolled. Among these patients, 88(67.7%) were males, while 42(32.3%) were females. Age range in this study was from 25 to 70 years with mean age of 46.27 ± 8.69 years. Mean duration of HCC was 1.8 ± 0.85 years. Mean AFP level was 125.5 ± 15.12 ng/ml. Frequency of portal vein thrombosis was observed in 32(24.6%) patients with hepatocellular carcinoma.

CONCLUSION

Portal vein thrombosis is common in patients with hepatocellular carcinoma. An early diagnosis of portal vein thrombosis along with the evaluation of the volume of portal vein thrombosis on CT and an early intervention is necessary.

KEYWORDS

Hepatocellular Carcinoma, Portal Vein Thrombosis, Cirrhosis, Hepatitis B, Hepatitis C.

FREQUENCY OF IN-HOSPITAL MORTALITY IN PATIENTS WITH UPPER GASTROINTESTINAL BLEEDING (UGIB) DUE TO LIVER CIRRHOSIS

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INTRODUCTION

Upper Gastro intestinal hemorrhage is a commonest medical emergency and fatality in liver cirrhosis patients. Whereas, the most common complication of portal-hypertension in liver cirrhosis patients is esophageal variceal bleeding. This clinical survey was mainly conducted to determine the mortality rate of cirrhotic patients with UGI bleeding in-hospital and in addition to that clinical presentations of patients, pre and post endoscopic findings, re-bleeding and other outcomes were also studied during hospitalization.

OBJECTIVE

To determine the frequency of in-hospital mortality due to upper gastrointestinal bleeding in patients with cirrhosis.

METHODOLOGY

This cross-sectional study was based on inclusion and exclusion criteria of sample collection, the sample size were 200 patients by using 95% confidence level with 2.2% margin of error. Data collection procedure was based on sampling criteria in which UGIB with liver cirrhosis were subjected under pre-endoscopy and endoscopy procedures in order to find reasons of UGIB which were mainly included esophageal, gastric, and peptic ulcers. All data was documented into pre-designed proformas then collected data was used to analyze it using SPSS.

RESULTS

In this study, the main cause of UGIB of cirrhotic patients was rupturing of esophageal and gastric varices. However, 70% of bleeding in variceal bleeding group was due to esophageal and 19.5% was due to gastric varices. Whereas the UGI bleeding from non-variceal patients was due to peptic ulcer it was around 21.5% of total UGIB cirrhotic patients.

CONCLUSION

Our findings revealed that variceal bleeders have significant chances of rebleeding, and in addition to that, those patients have higher mortality chances than non-variceal bleeders. Our study has shown that proper clinical presentation of patients, their treatment and management, including endoscopy and its outcomes, are critical to consider in order to formulate the important guidelines for liver cirrhosis UGI bleeding patients.

KEYWORDS

Liver Cirrhosis, variceal and non variceal bleeding, esophageal and gastric varices; peptic ulcer disease; upper gastrointestinal bleed

PREVALENCE OF HEPATITIS B AND C IN PATIENTS WITH HEPATOCELLULAR CARCINOMA AT PUMHS NAWABSHAH

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Peoples' University of Medical and health sciences Nawabshah

INTRODUCTION

Hepatocellular carcinoma (HCC) is a primary tumor of the liver which develops in the setting of chronic liver disease, particularly in patients with chronic hepatitis B and C in almost 80% of patients.¹ Hepatocellular carcinoma is the third most common cause of cancer related deaths worldwide, with half a million cases diagnosed annually.² Most of cases of HCC are due to chronic infection with either Hepatitis B virus (HBV) or Hepatitis C virus (HCV).² There are approximately 248 million people with chronic hepatitis B and about 80 million people with chronic hepatitis C worldwide.² The major risk factor for HCC is cirrhosis.³ Early diagnosis is crucial for curative treatments.³ As a consequence, patients at risk of developing HCC, should undergo surveillance programs in order to detect HCC in an early stage.³ HCC is an important cause of morbidity and mortality worldwide.⁴ Current HCC screening and diagnostic surveillance are based on imaging techniques.⁴ Serum Alpha-fetoprotein (AFP) proves a beneficial in early diagnosis and screening of HCC, when used in combination of ultrasonography/imaging techniques.⁵ Pakistan carries one of the world highest burdens of chronic hepatitis and mortality due to liver failure and hepatocellular carcinoma.⁶ The majority of infected population is unaware of their condition.⁷ This population has significant obstacles to overcome such as lack of awareness, vulnerability, increased migration, disease stigma, discrimination as well as poor health resources, conflict in the policy development and program implementation.⁷ Prevention and control strategies for viral hepatitis such as raising awareness through public education, vaccination, blood transfusion safety strategies, early diagnosis and effective medical support can be implemented, and novel interventions are available.⁷ A study reported that among cirrhotic patients, 10.5% developed HCC.⁸ Male patients were 77% and 23% were females.⁸ Hepatitis C was the commonest cause, present in 51% patients, hepatitis B was present in 15.3%, patients with HBV and HCV coinfection were 10.25%, history of alcoholism was revealed in 5% patients while in 10% cases, the cause of cirrhosis remained unknown.⁸ The aim of this study is to assess the frequency of hepatitis B and hepatitis C in patients who have developed hepatocellular carcinoma. To detect the associated cirrhosis in patients with HCC and also to detect the complications of HCC in patients with hepatitis B and hepatitis C virus.

OBJECTIVE

1. To determine the frequency of Hepatitis B in patients with hepatocellular carcinoma
2. To determine the frequency of Hepatitis C in patients with hepatocellular carcinoma

METHODOLOGY

(SBA) Chapter 3 Methodology

3.1 Research Background This research was managed at The Department of Medicine in Peoples Medical College Hospital, Nawabshah.

3.1.1 Span of Research 6 months after consent of synopsis

3.1.2 Research Plan Cross-sectional research

3.1.3 Sampling Procedure Non-probability purposive sampling

3.1.4 Specimen Size Rao soft was utilized for specimen size estimation, with an edge of mistake of 6% and 89% confidence level. The whole estimated individual size was 108 patients. Repetition in the earlier research was 80% in hepatitis C and 19% in hepatitis B.

3.2 Specimen Determination Specimen determination was conducted out at the Department of Medicine in Peoples' Medical College Hospital, Nawabshah.

3.2.1 Admittance Standards

- Both genders i.e. male and female
- Informed consent 42 Peoples' University Of Medical And Health Sciences, Nawabshah (SBA)
- Patients having diagnosis of HCC (hepatocellular carcinoma).
- Age

above 40 and below 80 years 3.2.2 Separation Standards • Previously treated hepatocellular carcinoma tumors/ lesions • Others hepatic disorders • Previously treated cases of hepatitis B virus and HCV. 3.3 Data Acquisition Method The research was carried out after permission of the ethical committee of PUMHS, Nawabshah, and after receiving the signed knowledgeable approval for research and method from the sufferers. These sufferers who accomplished admittance standards, encouraging the Department of Medicine, Peoples Medical College and Hospital, Nawabshah were registered in the investigation. A comprehensive record was practiced onward with screening for HCC i.e. Abdomen ultrasound, alpha-fetoprotein, and viral serological markers. Investigation of Hepatocellular carcinoma is based on Ct scan showing focal lesion of >2cm in liver on CT scan of Abdomen with early arterial hyper vascularization followed by rapid washout at late portal/ venous phase along with increased level of serum Alpha-fetoprotein (AFP) i.e.: >400ng/ml, which is obtained through blood sampling of patient. Ultrasound of abdomen showing hyperechoic liver (coarsening of liver echo texture) with decreased size, nodularity of liver surface and dilated portal vein. Viral serological markers are HBsAg which can be obtained on chromatography by blood sampling along with increased viral load on quantitative PCR for HBV DNA. Similarly sampling will be done for HCV antibody by blood sampling on chromatography along with increased viral load on quantitative PCR for HCV RNA. 43 Peoples' University Of Medical And Health Sciences, Nawabshah (SBA) 3.4 Data Interpretation Method SPSS9 (version 25.0) was practiced for data collection and investigation. Numbers and rates were calculated for qualitative variables such as etiological factors i.e. Anti-HCV positive, HCC, HBsAg, and gender. Quantitative variables were shown as Mean±S.D such as AFP level. Impact alternates i.e. etiological agents, gender, and age was formed by stratification. The Chi-square test and post-stratification were implemented. The p-value was lower than 0.05 was regarded as vital and significant.

RESULTS

All patients who are diagnosed with Hepatocellular carcinoma with underlying infection like HBV and HCV, there are certain other factors contributing to its progression like lifestyle changes, and family history of liver tumor [70]. Many external and internal factors can cause Hepatocellular carcinoma along with other infections like HBV, HCV, and sometimes HDV in individuals. These may be smoking, higher consumption of alcohol, obesity, family history, genetic defects, usage of oral contraceptive pills either in past or using it in present, different varieties of cancer like breast cancer, ovarian cancer in female patients, usage of anabolic steroids, radiation exposure to treat cancer, etc. The data given in following tables illustrate the prevalence of HBV and HCV in patients with HCC who are diagnosed by criteria mentioned in my study. Additionally the tables show the population with different other factors positive who might play role in progression of HCC who are already infected with HBV or HCV like smoking, obesity, economic class of a patient, alcohol, use of OCPs and anabolic steroids etc. 50 Peoples' University Of Medical And Health Sciences, Nawabshah (SBA) [71]. There is some sort of data that can explain infection and exposure of disease in all group ages and these are illustrated as below: Table no 4.1 Number and percentage of patients with acute hepatitis B and C reported in different age individuals (both males and females) Case HBV+ Patients HBV- Patients HCV+ Patients HCV- Patients Total cases no. (%) Males 13 (12.07%) 41 (37.96%) 41 (37.96%) 20 (18.52%) 115 (106.48%) No. (%) Females 30 (16.67%) 22 (20.37%) 25 (23.15%) 25 (23.15%) 102 (94.4%) Avg. no. of patients 21.5 31.5 33 22.5 108.5 Age group (yrs) From 40 years to 80 years Table 4.1 shows that total patients are divided according to the infection occurred by hepatitis B and C. There are different numbers of patients who are found with HBC and HCV positive and negative. This table contains average number of male and female who are infected with HCV and HBV between 40 to 80 years. In table 4.2, total patients will be divided equally according to the infection occurred by hepatitis B and C. Data on the risk of HCC and smoking is inconsistent. Pathogenesis and role of smoking in progression of HCC is mentioned above in RESULTS. Many investigations detected no statistically dose-response connection and meaningful relationship between HCC, smoking, and 51 Peoples' University Of Medical And Health Sciences, Nawabshah (SBA) tobacco, although remarkable altitude in uncertainty was often perceived. Different subjects inscribed a statistically important and concrete dose-response association and connection Table no 4.2 Number

and percentage of smoker and non-smoker patients with hepatitis B and C virus infections Age group (yrs.) Characteristics* No. (%) Cases reported with high risk of data no. (%) Ex- Smokers 2 (40%) 1 (20%) 1 (20%) 1 (20%) 5/108 (4.63%) No. (%) Non-Smokers 8(19.51%) 11(26.82%) 13(31.7%) 9(21.95%) 41/108 (37.9%) From 40 years to 80 years Smoking addiction HBV+ Patient HBV- Patients HCV+ Patients HCV- Patients Total cases Smokers 10(15.8%) 22 (34.9%) 20 (31.7%) 11 (17.4%) 63/108 (58.19%) between risk of HCC, and smoking [72]. Table 4.2 represents the number and percentage of patients with acute hepatitis B and C smokers reported in survey. Over 70 years and above patients were highly infected with the disease in which 5 males and only one female were infected. The percentage of HBV- was relatively higher in patients as compared to HCV-. On the other hand, there were also 2 cases of HCV+ in males. The overall percentage of HBV+ was 15.8% that occurring in smoking group and 2 patients out of 5 were noticed in ex-smokers group, besides that 19.51% were among non-smoking groups. HBV- patients make 34.9% among smoking group and 1 out of 5 patients from ex-smokers group was infected with this type. 52 Peoples' University Of Medical And Health Sciences, Nawabshah (SBA) HCC Smokers Non Smokers Ex-Smokers 37.9% 4.63% 58.19% Figure 4.21 Shows the percentage of HCC patients with and without smoking. Whereas, non-smokers were also infected with HBV- and they were 26.82% out of 41 patients. The overall percentage of HCV+ patients were 31.7% smokers and 1 out of 5 patients was ex-smokers, however, non-smokers patients were 13 out of 41. The total percentage of HCV- patients with smoking were 17.06% and 1 out of 5 patient from ex-smokers and 9 out of 41 patients were from non-smoking group. However, figure 4.1 shows the percentage of smokers, non-smokers and ex-smokers, and the occurrence of HCC with Hepatitis B and C. • Male patients were highly affected by consumption of smoking and develop cirrhosis at multiple stages. • Only one female patient was infected and she was ex-smoker with the presence of HCC. • Bad smoking habits lead to the development of cirrhosis. RESULTS are survey based and are explained according to gender and age. Inspection of CLD patients (chronic liver disease) having HCC (hepatocellular carcinoma) is challenging. 53 Peoples' University of Medical And Health Sciences, Nawabshah (SBA) However, the above data is representing the number and percentage of patients. Table 4.3 represents the number of patients with a positive family history of CLD due to any underlying cause, who later on developed or progressed to HCC. This table illustrates those patients who have history of chronic liver disease (CLD) in certain family members who were later on diagnosed with HCC because of delayed diagnosis and intervention. No record was available to patient who could help in diagnosing the cause of HCC or CLD, running in family other than positive cases of HBV or HCV among family members. Therefore RESULTS are mentioned on the basis of their positive serology for HBV and HCV among family members of affected patients with no any other cause mentioned by family members. But there were certain number of patients who developed cirrhosis and progressed to HCC without any underlying cause. Their Table no 4.3 Number and percentage of patients with family history having HCC and CLD of reported Age group (yrs) Characteristics* Cases HCC Patients HBV+ Patients HBV- Patients HCV+ Patients HCV- Patients CLD Total cases From 40 years to 80 years No. (%) Males 4/11 (36.36%) 3/3 (100%) 1/3 (33.33%) 0/4 (0%) 1/2 (50%) 1/11 (9.09%) 10/34(29.4-1%) No. (%) Females 7/11 (63.63%) 0/3 (0%) 2/3 (66.66%) 4/4 (100%) 1/2(50%) 2/11 (18.18%) 16/34 (47.05%) 54 Peoples' University Of Medical And Health Sciences, Nawabshah (SBA) serology was found negative for HBV as well as HCV. All the patients were diagnosed with HCC and cirrhosis both male and females are infected in which the numbers of females were higher than males. The males make overall percentage of 29.41% whereas on the other hand, all the females make 47.05% which is supposed to be a higher percentage among patients. This means that they have a higher level of infection. HBV+ patients include only male and there were total three patients where even a single female was not infected at all and made zero percentage. Patients were also infected with HBV- in which one male and two females were infected along with HCC and CLD. Males make 33.09% and females make 66.66% percentage overall with this condition. HCV+ infected patients include with zero male and 4 females making 100%. HCV- infected patients include one male and one female and they both make 50% individually. In condition with CLD (Chronic Liver Disease), one male and 2 females were infected out of 11 patients with HCC. • All the patients both male and female develop CLD having infection of HCC. • 10 males and 16 females were found having both

conditions at a time. • Patients having HCC experiencing HCV and HBV at different stages. Table no 4.4 Number and percentage of patients with use of oral contraceptive pills and anabolic steroids having HCV Characteristics* Cases HCC Patients HBV+ Patients HBV- Patients and HBV reported Age group (yrs) From 40 years to 80 years No. (%) Males 1/4 (25%) 1/4 (25%) - No. (%) Females 3/4 (75%) 3/4 (75%) 1/4 (25%) 56 Peoples' University Of Medical And Health Sciences, Nawabshah (SBA) HCV+ Patients HCV- Patients Total cases - 1/4 (25%) 3/108 (2.77%) - 3/4 (75%) 9/108 (8.33%) • (-) where this sign indicates zero (0) individuals. The expansion of hepatocellular carcinoma is a multistep method, and the principal purposes are the predominance of persistent HBV and HCV, habitual alcohol misuse, and aflatoxin susceptibility. The long-term use of oral contraceptive pills and high doses of AASs (anabolic- androgenic steroids) are responsible and are hazards for life. The patients of HCC follow AAS misuse and are usually confronted with non-cirrhotic livers. These steroids synthetically delivered male hormones like testosterone and are regularly mistreated and self-administered by patients. Table 4.4 represents the number and percentage of patients with usage of oral contraceptive pills and anabolic steroids having HCV and HBV reported in patients both in males and females. Both males and females were diagnosed with HCC in which one male and 3 female were infected. Whereas males make 25% and females make 75%. HBV+ patients involve one male and 3 female through which male makes 25% percentage and females make 75% with higher rate. HBV- patients are not diagnosed in male and they were supposed to be nil. Whereas 1 female was diagnosed with HBV- type, hence made 25% of the total range. HCV+ was not diagnosed in any of the patient who was taking medicines and pills for treatment in past or using in present days. HCV- were diagnosed in 1 male by making 25% percentage and 3 females were diagnosed with this type and made 75% overall. • 3 males were infected because of use of contraceptive oral pills and steroids. • Female were highly involved for the consumption of these steroids and OCPs. 56 Peoples' University Of Medical And Health Sciences, Nawabshah (SBA) • The reason of high number of female is just because they try to control their pregnancy or treat PCOS to avoid from complications. Cancer like breast cancer and ovarian cancer occurs in females only. To treat this cancer, radiation exposures are supposed to be a better treatment for cancer. The causes of cancer and radiation exposure are thought to play an important role in the development of hepatocellular carcinoma. Many studies have shown different data to support this complication. Table 4.5 represents number and percentage of patients with cancer and radiation exposure having HCC, HCV AND HBV infection. HCC was diagnosed in all four females making 100% percentage where no male was diagnosed with the disorder at all. Table no 4.5 Number and percentage of patients with cancer and radiation exposure having HCC, HCV AND HBV infection Characteristics* Cases HCC Patients HBV+ Patients HBV- Patients HCV+ Patients HCV- Patients Total cases Age group (yrs) From 40 years to 80 years No. (%) Males 0/4 (0%) 0/4 (0%) 0/4 (0%) 0/4 (0%) 0/4(0%) 0 (0%) No. (%) Females 4/4 (100%) 2/4 (50%) 2/4 (50%) 2/4 (50%) 2/4(50%) 4(100%) Radiation can play role in development or progression of HCC in both males and females. But 57 Peoples' University Of Medical And Health Sciences, Nawabshah (SBA) the numbers of patients affected in my study are females because at a time of survey, no male patient was reported with HCC along with exposure to radiations simultaneously. Those female patients were exposed to radiations because of breast or ovarian carcinoma and radiotherapy was carried out. Hence this table illustrates the prevalence of HBV and HCV in patients with HCC along with their exposure to radiations. HBV+ was diagnosed in 2 females out of 4 female patients and makes 50% of the total. HBV- was diagnosed in 2 females out of 4 female patients and makes 50% percentage. HCV+ was diagnosed in 2 females out of 4 female patients and makes 50% percentage. Same condition noticed in HCV- patients in which 2 females were diagnosed and makes 50% overall. Hence, all the females were infected with nearly all the types of virus that are supposed to taking treatment through medicines for cancer. • Only female patients were affected because they had face cancer like breast cancer and this cancer is only treated by the radiation exposure. • No male was infected. Number and percentage of patients with obesity and usage of alcohol having HCC, HCV AND HBV infection Characteristics* Cases HCC Patients HBV+ Patients HBV- Patients HCV+ Patients HCV- Patients Total cases Table no 4.6 Age group (yrs) From 40 years to 80 years No. (%) Males 2/5 (40%) 2/5 (40%) 2/5 (40%) 1/5 (20%) 0/5 (0%) 7 (100%) No. (%) Females 3/5 (60%) 3/5 (60%) 0/5 (0%) 1/5

(20%) 2/5(40%) 9 (180%) 58 Peoples' University Of Medical And Health Sciences, Nawabshah (SBA) The progress of HCC disease depends on various environmental and host agents. Substantial absorption of alcohol is a well-known cofactor enhancing the chance of cirrhosis, decompensation of cirrhosis, and mortality in outpatients with recurrent HCV disease. Earlier investigations have, though, declined to recognize an inception stage of alcohol misuse linked with an expanded danger of complexities or death. On the other hand, obesity is an identified hazard agent for the expansion of numerous complications such as kidney, gallbladder, breast, pancreas, endometrium, bone-marrow, and colorectal cancer in human beings. Obesity raises the death ratio in all types of cancers in which patients with a body mass index (BMI) higher than 40 had a mortality ratio more eminent than in healthy persons. Based on the relevant prospects and correlations perceived in some investigations and it was concluded that 15 percent of all losses due to cancer in men and 19 percent in women were attributable to staying obese or over weighted. Herein, table 4.6 presents number and percentage of patients with obesity and usage of 108 47.5% 29.4% Family history 108 108 3% 9% 108 108 90% 51% 45% Radiation exposure Obesity and Alcohol No HCC, HCV, HBV Male Female Total 0% 100% 70% Drugs intake Figure 4.2. Shows the percentage of HCC positive due to different reasons 59 Peoples' University Of Medical And Health Sciences, Nawabshah (SBA) alcohol having HCC, HCV AND HBV infection. These both conditions were observed in male and female equally. The males are relatively less in number as compared to females. HCC was diagnosed in 2 males and 3 females which make 40% and 60% respectively. HBV+ involves 3 females and 2 male. These females make 60% percentage and 40% was indicated in males. HBV- patients involve 2 males and 0 females and make 40% and 0% respectively. HCV+ patients includes 1 male and 1 females having 20% each respectively. HCV- patients involves no males and 2 females having 0% and 40% respectively. Furthermore, figure 4.2 depicts the number and percentage of patients with usage of contraceptive oral pills and anabolic steroids having HCV and HBV reported in patients both in males and females. Both males and females were diagnosed with HCC, however, female ratio is higher than male ratio who are diagnosed with HCC due to drug usage, apart from that it represents the number of patients with a family history along with infections such as HCC and CLD. All the patients were infected with HCC and cirrhosis. The patients with HCC involve both male and females in which the numbers of females were higher than males. Besides that it represents number and percentage of patients with cancer and radiation exposure having HCC, HCV AND HBV infection. HCC was diagnosed in all four females making 100% percentage where no male was diagnosed with the disorder at all. In this figure, patients with obesity and usage of alcohol having HCC, HCV AND HBV infection. These both conditions were observed in male and female equally. The males are relatively less in number as compared to females. 60 Peoples' University Of Medical And Health Sciences, Nawabshah (SBA) Table no 4.7 Number and percentage of patients, having HCC with no any other predisposing or contributing factor other than HCV and HBV infection Characteristics* Cases HCC Patients HBV+ Patients HBV- Patients HCV+ Patients HCV- Patients Total cases Age group (yrs) From 40 years to 80 years No. (%) Males 21/33 (63.63%) 3/33 (9.09%) 7/33 (21.21%) 11/33 (33.33%) 3/33(9.09%) 45(136.36%) No. (%) Females 12/33 (36.36%) 11/33 (33.33%) 11/33 (33.33%) 9/33 (27.27%) 8/33(24.24%) 51(154.54%) Some patients were diagnosed with HCC with no any other predisposing factor like obesity, smoking, alcohol, radiation exposure, use of OCPs or anabolic steroids, other than 4.2 RESULTS All patients who are diagnosed with Hepatocellular carcinoma with underlying infection like HBV and HCV, there are certain other factors contributing to its progression like lifestyle changes, and family history of liver tumor [70]. Many external and internal factors can cause Hepatocellular carcinoma along with other infections like HBV, HCV, and sometimes HDV in individuals. These may be smoking, higher consumption of alcohol, obesity, family history, genetic defects, usage of oral contraceptive pills either in past or using it in present, different varieties of cancer like breast cancer, ovarian cancer in female patients, usage of anabolic steroids, radiation exposure to treat cancer, etc. The data given in following tables illustrate the prevalence of HBV and HCV in patients with HCC who are diagnosed by criteria mentioned in my study. Additionally the tables show the population with different other factors positive who might play role in progression of HCC who are already infected with HBV or HCV like smoking, obesity, economic class of a patient, alcohol, use of OCPs and anabolic steroids etc. 50 Peoples'

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(%) Ex- Smokers 2 (40%) 1 (20%) 1 (20%) 1 (20%) 5/108 (4.63%) No. (%) Non-Smokers 8(19.51%) 11(26.82%) 13(31.7%) 9(21.95%) 41/108 (37.9%) From 40 years to 80 years Smoking addiction HBV+ Patient HBV- Patients HCV+ Patients HCV- Patients Total cases Smokers 10(15.8%) 22 (34.9%) 20 (31.7%) 11 (17.4%) 63/108 (58.19%) between risk of HCC, and smoking [72]. Table 4.2 represents the number and percentage of patients with acute hepatitis B and C smokers reported in survey. Over 70 years and above patients were highly infected with the disease in which 5 males and only one female were infected. The percentage of HBV- was relatively higher in patients as compared to HCV-. On the other hand, there were also 2 cases of HCV+ in males. The overall percentage of HBV+ was 15.8% that occurring in smoking group and 2 patients out of 5 were noticed in ex-smokers group, besides that 19.51% were among non-smoking groups. HBV-patients make 34.9% among smoking group and 1 out of 5 patients from ex-smokers group was infected with this type. 52 Peoples' University Of Medical And Health Sciences, Nawabshah (SBA) HCC Smokers Non Smokers Ex-Smokers 37.9% 4.63% 58.19% Figure 4.21 Shows the percentage of HCC patients with and without smoking. Whereas, non-smokers were also infected with HBV- and they were 26.82% out of 41 patients. The overall percentage of HCV+ patients were 31.7% smokers and 1 out of 5 patients was ex- smokers, however, non-smokers patients were 13 out of 41. The total percentage of HCV- patients with smoking were 17.06% and 1 out of 5 patient from ex-smokers and 9 out of 41 patients were from non-smoking group. 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This table illustrates those patients who have history of chronic liver disease (CLD) in certain family members who were later on diagnosed with HCC because of delayed diagnosis and intervention. No record was available to patient who could help in diagnosing the cause of HCC or CLD, running in family other than positive cases of HBV or HCV among family members. Therefore RESULTS are mentioned on the basis of their positive serology for HBV and HCV among family members of affected patients with no any other cause mentioned by family members. But there were certain number of patients who developed cirrhosis and progressed to HCC without any underlying cause. Their Table no 4.3 Number and percentage of patients with family history having HCC and CLD of reported

Age group (yrs) Characteristics* Cases HCC Patients HBV+ Patients HBV- Patients HCV+ Patients HCV- Patients CLD Total cases From 40 years to 80 years No. (%) Males 4/11 (36.36%) 3/3 (100%) 1/3 (33.33%) 0/4 (0%) 1/2 (50%) 1/11 (9.09%) 10/34(29.4-1%) No. (%) Females 7/11 (63.63%) 0/3 (0%) 2/3 (66.66%) 4/4 (100%) 1/2(50%) 2/11 (18.18%) 16/34 (47.05%) 54 Peoples' University Of Medical And Health Sciences, Nawabshah (SBA) serology was found negative for HBV as well as HCV. All the patients were diagnosed with HCC and cirrhosis both male and females are infected in which the numbers of females were higher than males. The males make overall percentage of 29.41% whereas on the other hand, all the females make 47.05% which is supposed to be a higher percentage among patients. This means that they have a higher level of infection. HBV+ patients include only male and there were total three patients where even a single female was not infected at all and made zero percentage. Patients were also infected with HBV- in which one male and two females were infected along with HCC and CLD. Males make 33.09% and females make 66.66% percentage overall with this condition. HCV+ infected patients include with zero male and 4 females making 100%. HCV- infected patients include one male and one female and they both make 50% individually. In condition with CLD (Chronic Liver Disease), one male and 2 females were infected out of 11 patients with HCC. • All the patients both male and female develop CLD having infection of HCC. • 10 males and 16 females were found having both conditions at a time. • Patients having HCC experiencing HCV and HBV at different stages. Table no 4.4 Number and percentage of patients with use of oral contraceptive pills and anabolic steroids having HCV Characteristics* Cases HCC Patients HBV+ Patients HBV- Patients and HBV reported Age group (yrs) From 40 years to 80 years No. (%) Males 1/4 (25%) 1/4 (25%) - No. (%) Females 3/4 (75%) 3/4 (75%) 1/4 (25%) 55 Peoples' University Of Medical And Health Sciences, Nawabshah (SBA) HCV+ Patients HCV- Patients Total cases - 1/4 (25%) 3/108 (2.77%) - 3/4 (75%) 9/108 (8.33%) • (-) where this sign indicates zero (0) individuals. The expansion of hepatocellular carcinoma is a multistep method, and the principal purposes are the predominance of persistent HBV and HCV, habitual alcohol misuse, and aflatoxin susceptibility. The long-term use of oral contraceptive pills and high doses of AASs (anabolic-androgenic steroids) are responsible and are hazards for life. The patients of HCC follow AAS misuse and are usually confronted with non-cirrhotic livers. These steroids synthetically delivered male hormones like testosterone and are regularly mistreated and self-administered by patients. Table 4.4 represents the number and percentage of patients with usage of oral contraceptive pills and anabolic steroids having HCV and HBV reported in patients both in males and females. Both males and females were diagnosed with HCC in which one male and 3 female were infected. Whereas males make 25% and females make 75%. HBV+ patients involve one male and 3 female through which male makes 25% percentage and females make 75% with higher rate. HBV- patients are not diagnosed in male and they were supposed to be nil. Whereas 1 female was diagnosed with HBV- type, hence made 25% of the total range. HCV+ was not diagnosed in any of the patient who was taking medicines and pills for treatment in past or using in present days. HCV- were diagnosed in 1 male by making 25% percentage and 3 females were diagnosed with this type and made 75% overall. • 3 males were infected because of use of contraceptive oral pills and steroids. • Female were highly involved for the consumption of these steroids and OCPs. 56 Peoples' University Of Medical And Health Sciences, Nawabshah (SBA) • The reason of high number of female is just because they try to control their pregnancy or treat PCOS to avoid from complications. Cancer like breast cancer and ovarian cancer occurs in females only. To treat this cancer, radiation exposures are supposed to be a better treatment for cancer. The causes of cancer and radiation exposure are thought to play an important role in the development of hepatocellular carcinoma. Many studies have shown different data to support this complication. Table 4.5 represents number and percentage of patients with cancer and radiation exposure having HCC, HCV AND HBV infection. HCC was diagnosed in all four females making 100% percentage where no male was diagnosed with the disorder at all. Table no 4.5 Number and percentage of patients with cancer and radiation exposure having HCC, HCV AND HBV infection Characteristics* Cases HCC Patients HBV+ Patients HBV- Patients HCV+ Patients HCV- Patients Total cases Age group (yrs) From 40 years to 80 years No. (%) Males 0/4 (0%) 0/4 (0%) 0/4 (0%) 0/4 (0%) 0/4(%) 0 (0%) No. (%) Females 4/4 (100%) 2/4 (50%) 2/4 (50%) 2/4 (50%) 2/4(50%) 4(100%) Radiation can play role in development or progression of HCC

in both males and females. But 57 Peoples' University Of Medical And Health Sciences, Nawabshah (SBA) the numbers of patients affected in my study are females because at a time of survey, no male patient was reported with HCC along with exposure to radiations simultaneously. Those female patients were exposed to radiations because of breast or ovarian carcinoma and radiotherapy was carried out. Hence this table illustrates the prevalence of HBV and HCV in patients with HCC along with their exposure to radiations. HBV+ was diagnosed in 2 females out of 4 female patients and makes 50% of the total. HBV- was diagnosed in 2 females out of 4 female patients and makes 50% percentage. HCV+ was diagnosed in 2 females out of 4 female patients and makes 50% percentage. Same condition noticed in HCV- patients in which 2 females were diagnosed and makes 50% overall. Hence, all the females were infected with nearly all the types of virus that are supposed to taking treatment through medicines for cancer. • Only female patients were affected because they had face cancer like breast cancer and this cancer is only treated by the radiation exposure. • No male was infected. Number and percentage of patients with obesity and usage of alcohol having HCC, HCV AND HBV infection

Characteristics* Cases HCC Patients HBV+ Patients HBV- Patients HCV+ Patients HCV- Patients Total cases Table no 4.6

Age group (yrs)	From 40 years to 80 years	No. (%) Males	2/5 (40%)	2/5 (40%)	2/5 (40%)	1/5 (20%)	0/5 (0%)	7 (100%)
No. (%) Females	3/5 (60%)	3/5 (60%)	0/5 (0%)	1/5 (20%)	2/5(40%)	9 (180%)	58	Peoples' University Of Medical And Health Sciences, Nawabshah (SBA)

The progress of HCC disease depends on various environmental and host agents. Substantial absorption of alcohol is a well-known cofactor enhancing the chance of cirrhosis, decompensation of cirrhosis, and mortality in outpatients with recurrent HCV disease. Earlier investigations have, though, declined to recognize an inception stage of alcohol misuse linked with an expanded danger of complexities or death. On the other hand, obesity is an identified hazard agent for the expansion of numerous complications such as kidney, gallbladder, breast, pancreas, endometrium, bone-marrow, and colorectal cancer in human beings. Obesity raises the death ratio in all types of cancers in which patients with a body mass index (BMI) higher than 40 had a mortality ratio more eminent than in healthy persons. Based on the relevant prospects and correlations perceived in some investigations and it was concluded that 15 percent of all losses due to cancer in men and 19 percent in women were attributable to staying obese or over weighted. Herein, table 4.6 presents number and percentage of patients with obesity and usage of 108 47.5% 29.4% Family history 108 108 3% 9% 108 108 90% 51% 45% Radiation exposure Obesity and Alcohol No HCC, HCV, HBV Male Female Total 0% 100% 70% Drugs intake Figure 4.2. Shows the percentage of HCC positive due to different reasons 59 Peoples' University Of Medical And Health Sciences, Nawabshah (SBA) alcohol having HCC, HCV AND HBV infection. These both conditions were observed in male and female equally. The males are relatively less in number as compared to females. HCC was diagnosed in 2 males and 3 females which make 40% and 60% respectively. HBV+ involves 3 females and 2 male. These females make 60% percentage and 40% was indicated in males. HBV- patients involve 2 males and 0 females and make 40% and 0% respectively. HCV+ patients includes 1 male and 1 females having 20% each respectively. HCV- patients involves no males and 2 females having 0% and 40% respectively. Furthermore, figure 4.2 depicts the number and percentage of patients with usage of contraceptive oral pills and anabolic steroids having HCV and HBV reported in patients both in males and females. Both males and females were diagnosed with HCC, however, female ratio is higher than male ratio who are diagnosed with HCC due to drug usage, apart from that it represents the number of patients with a family history along with infections such as HCC and CLD. All the patients were infected with HCC and cirrhosis. The patients with HCC involve both male and females in which the numbers of females were higher than males. Besides that it represents number and percentage of patients with cancer and radiation exposure having HCC, HCV AND HBV infection. HCC was diagnosed in all four females making 100% percentage where no male was diagnosed with the disorder at all. In this figure, patients with obesity and usage of alcohol having HCC, HCV AND HBV infection. These both conditions were observed in male and female equally. The males are relatively less in number as compared to females. 60 Peoples' University Of Medical And Health Sciences, Nawabshah (SBA) Table no 4.7 Number and percentage of patients, having HCC with no any other predisposing or contributing factor other than HCV and HBV infection

Characteristics* Cases HCC Patients HBV+ Patients HBV-

Patients HCV+ Patients HCV- Patients Total cases Age group (yrs) From 40 years to 80 years No. (%) Males 21/33 (63.63%) 3/33 (9.09%) 7/33 (21.21%) 11/33 (33.33%) 3/33(9.09%) 45(136.36%) No. (%) Females 12/33 (36.36%) 11/33 (33.33%) 11/33 (33.33%) 9/33 (27.27%) 8/33(24.24%) 51(154.54%)

Some patients were diagnosed with HCC with no any other predisposing factor like obesity, smoking, alcohol, radiation exposure, use of OCPs or anabolic steroids, other than underlying infection of HBV and HCV. Many patients develop cirrhosis due to prolonged infection of HBV and HCV. However, many other investigations have shown identical RESULTS. Table 4.7 represents the number and percentage of patients having HCC with underlying infection of HCV and HBV without any other predisposing or contributing factor. All patients were diagnosed with HCC+ cases in which male are 21 in number and make a percentage of 63.63% and females were 12 in number making 36.36%. In case of HBV+, only 3 males were infected where females were 11 and makes 9.09% and 33.33% percentage respectively. HBV- cases were also reported in which 11 males and 9 females were diagnosed with this type and display a percentage of 33.33% and 27.27% respectively. HCV- was found in patients with 3 males having 9.09% percentage and 8 females were involved making 24.24% percentage. The overall result shows that females were 61 Peoples' University Of Medical And Health Sciences, Nawabshah (SBA) highly infected since they are not diagnosed with any type of condition where male was also high in number with same circumstances. Table no 4.8 Number and percentage of patients with different AFP levels and economic status having HCV, HDV and HBV among 108 patients

Age (yr)	Sex (Male/Female)	HCC	Economic Status	Good	Middle	Poor	Concentration of AFP (mg/ml)					
1000	40-70	(57.14%)	14/108	(12.96%)	56/108	(51.85%)	3/108	(2.78%)	29/108	(26.85%)	15/108	(13.89%)

AFP is abbreviated as alpha-fetoprotein and is known as a glycoprotein having a half-life of approximately 5-7 days. Levels of AFP serum diminish after parturition and remains at extremely moderate levels in healthy bodies. Alpha-fetoprotein was recognized as the primary oncofetal biomarker for victims with HCC and uniform teratoma. This was the initial serological analysis for the examination for patients having hepatocellular carcinoma. The tumor load can be determined by observing AFP levels. Staging methods for HCC in the forecast of the result revealed that applying AFP in the scoring methods can contribute further prognostic interest. Though it has been summarized that higher than 30 percent of patients having HCC do not 62 Peoples' University of Medical and Health Sciences, Nawabshah (SBA) display AFP levels. On the other hand, poverty and unawareness about diseases play major role in developing infections very rapidly. Table 4.8 presents the number and percentage of patients with different AFP levels and economic status having HCV, HDV and HBV among 108 patients. There were no patients having lower than 100 AFP levels and 2 patients have nil RESULTS in respective field. Patients having 100-1000 AFP levels by age and gender were 47.06% and 87.03% respectively. On the other hand, greater than 1000 AFP levels by age and gender have 57.14% and 12.96% respectively. The table 4.8 also represents the socio economic status in which the middle class were at high risk of infection. Middle class status includes population who has one or 2 earning persons in family who are farmers or labors in occupation and having a good living home. Poor class population is who can hardly earn for home and are having muddy home to live. They fall backward in terms of health wealth and education as well as income sources. Upper class is group of people with high social status in terms of education, wealth and income sources. Economic Status Poor Good Middle 27.78% 22.22% 6.48%

Figure 4.2. Shows the economic status of patients that varies from poor to good 63 Peoples' University Of Medical And Health Sciences, Nawabshah (SBA) these terms are described on the basis of conditions in our areas where study is being conducted. Furthermore, socio-economic status has been graphically presented in figure 4.2 that depicts the percentage of economic status of different patients that varies from poor to good. All the conditions, number and percentage of patients were discussed in above tables but there were some cases which are recorded individually and are important towards research purposes. These are discussed as below:

1. only one female was diagnosed with a distinct case in which all the three conditions i.e. HCC, HBV and HCV were negative.
2. Two females and only one male were diagnosed with HCC, HBV and HCV positive.
3. Two male patients were diagnosed with HBV and HIV positive.
4. One female patient was diagnosed with HCV, HBV, HCC and HDV positive.
5. Only one female was diagnosed with HBV, HDV positive and HCV negative.
6. Two females of age 47 and 75 take medicine to treat PCOS in past.

CONCLUSION

Hepatocellular carcinoma develops predominantly in setting of chronic infection due to hepatitis B and C viral infections. The greatest subjects were men impersonating medium as well as an exceptional grade condition wherever medications were not reasonable. A comprehensive account, bodily analysis, and examinations were conducted for every patient to investigate their traits at primary stages. The gender and age of the patients were recorded. Their execution situation was rated from 0 to 10 being the criteria of the WHO. All subjects were examined for HCV and HBV to determine the etiology of hepatocellular carcinoma. Ultrasonography was performed to determine the presence of liver lesions or tumors and their volumes. The child-pugh test was performed and getting in the record. Liver encephalopathy, PT/INR, albumin and bilirubin levels, and ascites were the essential parameters. The number of HCC has revealed a noticeable rise in Pakistan throughout the past 30 years. In critical, a higher than two turn spread was seen across the past 20 years. The carrier frequencies of both HCV and HBV in the normal people in Pakistan are in the equivalent series. The rate of hepatocellular carcinoma in hepatitis C virus is believed to be extremely more crucial as compared to Hepatitis B transmitters. Though, the rate of hepatocellular carcinoma in cirrhosis due to different conditions is considered to be reasonably comparable, without cirrhosis induced by Wilson's disease, initial biliary cirrhosis, and autoimmune hepatitis. Therefore, to limit the possible spread of hepatocellular carcinoma, that is important to examine the relevant chances of persistent hepatitis C, and B which should not still be encouraged to cirrhosis, to describe the distinction among the dimensions of hepatitis C virus transmitters in the global society and patients having hepatocellular carcinoma. The common sense of the research groups was 65 Peoples' University Of Medical And Health Sciences, Nawabshah (SBA) significantly more crucial in HCV as compared to HBV. Though, that does not indicate that the term of hepatitis B virus disease was significantly higher. The span of disease is equivalent to the lifetime of the patients in Pakistan. There are many patients which have developed cirrhosis in the presence of HBV and HCV infections. The major cause of the development of HCC in individuals was smoking and diabetes. Over 90 % of the patients develop hepatocellular carcinoma and have symptoms and existence of HCV, HBV, and HDV.

KEYWORDS

KEYWORDSs: Hepatocellular carcinoma, HBV, HCV, HDV, CLD, cirrhotic patients, cirrhosis, diabetic, smokers.

DEMOGRAPHIC PROFILING OF LIVER CANCER PATIENTS IN PAKISTAN: A COMPREHENSIVE FOUR-YEAR STUDY AT A TERTIARY CARE HOSPITAL FROM 2018 TO 2021

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BACKGROUND

Hepatocellular carcinoma (HCC) ranks as the fourth leading cause of global cancer-related deaths, with increasing incidence rates observed in recent decades. In Pakistan, where HCV is endemic, HCC is rising and could become the most common cancer among adult males. Pakistan significantly contributes to the global HCV burden, with one of the world's highest prevalence rates (>3%). The absence of a national cancer registry and screening programs means that hepatitis and HCC prevalence estimates only partially depict the magnitude of this issue. Addressing these challenges is crucial for effective HCC control in Pakistan. Aims: To identify demographical and epidemiological characteristics of hepatic carcinoma patients at a tertiary care hospital in Pakistan.

METHODOLOGY

A retrospective cross-sectional analysis of Hepatic Cancer data from 2018 to 2021 obtained from the SIH Cancer Registry was performed. The datasets were analyzed on SPSS version 26. Data stratification and extended frequency analysis was done on desired variables in phase 1 of the study.

RESULTS

The study reports demographics of a total number of 1899 Hepatic Cancer patients treated at the Shifa International Hospital. Variables considered included age, marital status, locality, basis of diagnosis, ICD topography, morphology, SEER summary staging, AJCC staging, life status, surgery status, treatment, and transplant and Hepatitis status. RESULTS showed that 95.9% patients were from Pakistan (Punjab province having the highest number) while 4% came from Afghanistan. The Mean±S.D was 62.05 ± 11.29. As per the ICD O3.2 topographical classification, 94.2% cases coded C22.0 (Liver cell carcinoma) and 5.4% as C22.1 (Intrahepatic bile duct carcinoma). On the basis of morphology 91.2% coded 8170/3 (Hepatocellular Carcinoma). As per AJCC staging most of the patients (36.4%) in this data set were stage 3 cases. Majority of the patients (59.7%) were diagnosed on the basis of Medical Imaging. Regarding the extent of spread on the basis of SEER summary staging, 39.4% patients has Regional spread by Direct Extent. Phase 1 follow up analysis showed 92.6% patients to be alive. Most of the patients (87.3%) did not have a liver surgery performed post-diagnosis while only 8.7% patients were hepatic transplant cases.

CONCLUSION

This pioneering study, based on an extensive dataset of liver cancer in Pakistan, offers invaluable insights. It facilitates disease burden prediction and characterization, guiding future prevention-focused research in combating HCC within the Pakistani population

ENDOSCOPIC MANAGEMENT OF POST CHOLECYSTECTOMY BILE DUCT INJURIES

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INTRODUCTION

Shift from open cholecystectomy to laparoscopic cholecystectomy has decreased procedure related morbidity. However, iatrogenic bile duct injury is a known complication, post procedure. Contemplating endoscopic treatment at the outset is suggested before any surgical reconstruction procedure. Endoscopic management of bile leaks is regarded safe and efficacious but the optimal endoscopic intervention is not yet fully established.

OBJECTIVE

This study shows our experience of endoscopic management of bile duct injuries after cholecystectomy.

METHODOLOGY

All consecutive patients admitted in department of hepatogastroenterology with either collection on ultrasound abdomen or high output in the drain post cholecystectomy were enrolled. All patients underwent endoscopic retrograde Cholangiopancreatography (ERCP). Patients demographic data, findings on ERCP, intervention performed and post procedure complications were recorded.

RESULTS

In total 56 patients underwent ERCP in which three-fifth of study population were female (n = 33; 58.9%). Mean age was 40.27 ± 14.16 years. All of them underwent laparoscopic cholecystectomy. Majority of the patients (n= 50; 89.3 %) underwent ERCP after 3 days of surgery. CBD cannulation was successful in most of the patients (n= 47; 83.9 %). Majority had leak at the level of cystic duct (n = 42) followed by leak at proximal (n = 4) and distal CBD (n = 2). In 2 patients, site of leak couldn't be assessed. Sphincterotomy was performed in 3 patients, while plastic stent was deployed in 16 patients. However, Sphincterotomy along with CBD stent placement was performed in 28 patients. In only 2 patients, ampullary site bleeding was observed. All participants with successful cannulation documented improvement in clinical and biochemical parameters.

CONCLUSION

Early identification of iatrogenic bile duct injuries is essential so that appropriate measures could be taken to decrease the morbidity associated with the condition. Most patients with bile leak can be successfully managed with ERCP even when performed on an elective basis.

KEYWORDS

Bile duct injury, ERCP

“BATS SCORE” AS A PREDICTOR OF COMMON BILE DUCT STONES IN PATIENTS WITH ASGE INTERMEDIATE PROBABILITY CRITERIA OF CHOLEDOCHOLITHIASIS

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INTRODUCTION

The ability to predict Common Bile Duct (CBD) stones with noninvasive tests can avoid unnecessary, costly, or risky endoscopic procedures.

OBJECTIVE

Therefore, our aim was to identify non-invasive predictors of CBD stone in patients with intermediate probability of choledocholithiasis and device and evaluate diagnostic accuracy of a score in predicting choledocholithiasis.

METHODOLOGY

It was a prospective study which was conducted at the department of Hepatogastroenterology, Sindh Institute of Urology and Transplantation from 1st January 2021 to 31st December 2021. All patients with gall bladder stones on transabdominal sonography and falling in ASGE intermediate probability criteria were included in the study. All the patients underwent radial Endoscopic ultrasound (EUS) followed by Endoscopic Retrograde Cholangiopancreatography (ERCP). Baseline laboratory investigations were performed for all patients. Continuous variables were analyzed using student t test while categorical variables were analyzed using Chi square test. Univariate and multivariate analysis was performed to identify the independent predictors of CBD stone in intermediate probability patients. A model was proposed and a cut off value was chosen, at which the optimal sensitivity, specificity and diagnostic accuracy were obtained.

RESULTS

Total number of patients included in the study was 131. Out of them, 106 (80.9%) were males. Most common symptom was abdominal pain present in 126 (96.9%) patients while pancreatitis was noted in 25 (19.1%) patients. At baseline, dilated CBD was appreciated in 95 (72.5%) patients. On EUS, CBD stone was noted in 85 (66%) while on ERCP 88 (67.2%) patients were found to have choledocholithiasis. On univariate analysis, presence of abdominal pain and dilated CBD at baseline along with high total leucocyte count, serum bilirubin, alkaline phosphatase and gamma glutamyl transpeptidase had significant statistical association with occurrence of CBD stone. On multivariate analysis, high serum Bilirubin and Alkaline Phosphatase and diagnosis of dilated CBD on Transabdominal Sonography at baseline were independent predictors of CBD stone. Using these variables, a scoring system (BATS score) was developed which had an AUROC of 0.85 in predicting presence of CBD stone. A cut off value of ≥ 5 , demonstrated sensitivity of 93.18%, specificity 76.74%, PPV 89.13%, NPV 84.62% and diagnostic accuracy of 87.79% in predicting CBD stone in patients with intermediate probability.

CONCLUSION

A BATS score of > 5 indicates presence of CBD stone with good sensitivity and diagnostic accuracy.

KEYWORDS

CBD stone, intermediate probability

ROLE OF DIRECT-ACTING ANTI-VIRAL DRUGS (SOFOSBUVIR AND DACLATASVIR) IN ACHIEVING SUSTAINED VIROLOGICAL RESPONSE IN HEPATITIS C PATIENTS AT SERVICES HOSPITAL, LAHORE

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INTRODUCTION

Hepatitis C (HCV) is caused by a hepatotropic RNA virus and can lead to progressive liver damage, potentially resulting in cirrhosis and hepatocellular cancer. Unsafe injection practices and iatrogenic infections are common risk factors, particularly in high-incidence regions. Globally, approximately 177.5 million people suffer from chronic HCV infections. [1] While some individuals can naturally clear the virus, chronic hepatitis C (CHC) can lead to a range of liver diseases, from mild inflammation to severe fibrosis and eventual cirrhosis. Cirrhosis significantly increases morbidity and mortality rates, often exhibiting signs of hepatic decompensation in advanced stages. CHC-related cirrhosis carries a 5.8% annual incidence of hepatocellular carcinoma. The asymptomatic nature of the infection often delays detection until the disease has progressed significantly, making the management challenging. Diagnostic methods include testing for HCV antibodies, HCV RNA, viral genotype, subtype, and assessing resistance-related substitutions. Addressing the HCV pandemic necessitates treatment-as-prevention strategies, efficient screening programs, and broad therapy accessibility, especially in the absence of a preventive vaccine.

BACKGROUND

Hepatitis C is a global health concern, potentially leading to severe liver damage and fatal liver cancer. The era of direct-acting antiviral (DAA) therapies began with the development of first generation NS3/4A protease inhibitors in 2011[2]. Initial findings suggest that direct-acting antivirals (DAAs), such as sofosbuvir, may achieve sustained virological response (SVR), effectively eliminating the hepatitis C virus (HCV) from the bloodstream. Daclatasvir, a new oral DAA, inhibits the hepatitis C virus NS5A protein and has recently gained approval in the United States, Europe, and Japan for treating chronic hepatitis C. It exhibits potent pangenotypic activity and a moderately high genetic barrier to resistance, improving SVR rates. In COMMAND phase 2 trials, Daclatasvir demonstrated high SVR rates in HCV genotype 1-4 chronically infected patients treated with peg-interferon- α (pegIFN α) plus ribavirin (RBV). It produced even higher response rates in all-oral combinations with sofosbuvir, an interferon-free regimen, with or without ribavirin, in patients with advanced liver disease, HCV/HIV coinfection, and liver transplantation in ALLY studies and other real-world studies. [3] Sofosbuvir is a nucleotide NS5B polymerase inhibitor [5], co-formulated with Ledipasvir for treating hepatitis C genotypes 1, 4, 5, and 6 infection [6]. A meta-analysis showed no additional benefit when ribavirin was added to sofosbuvir/Ledipasvir for treating genotype 1 infection. Sofosbuvir/Daclatasvir combination is effective for treating hepatitis C genotypes 1 to 6. Patients with HCV genotypes 2 and 3 infections were treated with sofosbuvir and ribavirin for 12 and 24 weeks, respectively. In addition, the achieving SVR rates for genotype 2 infection were 93% and 85% for genotype 3 infection. Sofosbuvir has been co-formulated with other NS5A inhibitors or NS3/4A protease inhibitors to enhance its effectiveness against HCV [7,8]. Common side effects of Sofosbuvir include headache, nausea, insomnia, and fatigue. Common side effects of Daclatasvir are headache, fatigue, nausea, rash, insomnia, diarrhea and dizziness.

Direct-Acting Antiviral Therapies: Direct-acting antiviral drugs (DAAs) represent recent and costly therapies for chronic hepatitis C. Researchers and regulatory bodies often use SVR as the primary observational surrogate endpoint for assessing morbidity and mortality. However, this approach lacks strong support from randomized trials.

OBJECTIVES

- To evaluate whether HCV treatment reduces mortality by preventing liver-related deaths associated with hepatocellular carcinoma and decompensated cirrhosis development.
- To estimate the number of people achieving SVR after HCV treatment.

METHODOLOGY

This cross-sectional descriptive study included 163 patients enrolled in the Hepatitis OPD of Services Hospital, Lahore during January and February 2023 for hepatitis C treatment. The adjusted sample size was calculated by WHO size software and selected by non-purposive convenient sampling. After the consent of patients/attendants regarding a sociodemographic - parameter, medical history, national data base and child-Pugh score. The data was analyzed by SPSS version 26.0 and RESULTS were compiled.

CONCLUSION

The cohort comprised 82 females and 81 males, with 108 patients falling in the age group of 16 to 50 years, 44 above 50 years, and 2 below 15 years. All patients tested positive on PCR tests, with 59 having a viral load between 1 lac IU/ml to 10 lac IU/ml, 44 between 10 to 1 lac IU/ml, and 52 above 10 lac IU/ml. Among them, 153 were treatment-naïve, 10 had prior treatment experience, and 15 presented with relapse. A significant relationship was found between the development of ascites and disease progression. Among them, 117 completed the 3-month treatment and achieved SVR, while 4 did not achieve SVR, and follow-up was lost for 42 patients. Significant relationships were also observed between disease stage and albumin levels. A total of 57 patients had cirrhosis, and 106 were non-cirrhotic. Further analyses revealed notable correlations between cirrhosis and variables such as albumin levels, splenic index, Child-Pugh class, and platelet count. Certain lab investigations like Hb, AST, ALT, bilirubin, PT, INR, and creatinine levels were not significantly related to disease stage.

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