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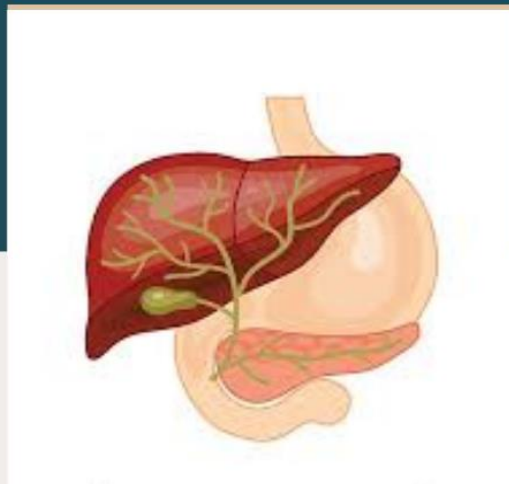
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Editorial Note:

Pakistan journal of Gastroenterology, is being published by Pakistan Society of Gastroenterology since 1987. After a gap of few years, it is being relaunched with the same name but new format, additional focus and an augmented editorial board. International reviewers have been included to increase the impact of published material. we will continue to publish national and international articles in Gastroenterology, Hepatology, Endoscopy and metabolic disorders, and pledge to continue seamless articles publication without conflict of interest and any gaps in publication. We are striving to adopt new logistics and exploring new ways to develop and establish our journal.

We are still in brain storming phase of how to expand and create an identity in the galaxy of journals. We will be applying for indexation in HEC, PMDC, CPSP. Scopus, DOAJ and PubMed central and believe to achieve our goals in next two years' time.

We would like to have your feedback from content to cover art of present issue and impressive work coming our biannually.

Editorial Team

The Pakistan Journal of Gastroenterology

"Ulcerative Colitis: Clinical manifestations, treatment and outcomes. An experience of a tertiary care hospital in Karachi, Pakistan"

Nazish Butt, Omar Idris

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Abstract:

Introduction: Ulcerative colitis (UC) is a chronic idiopathic inflammatory bowel disorder of the colon that causes continuous mucosal inflammation extending from the rectum to the more proximal colon, with variable extents. UC is characterized by a relapsing and remitting course. Ulcerative colitis has an incidence of 9 to 20 cases per 100,000 persons per year. Its prevalence is 156 to 291 cases per 100,000 persons per year. In Pakistan true prevalence of this disease is unknown. In a large referral centre, the incidence of ulcerative colitis in patients presenting with rectal bleeding was reported to be as high as 25%.

Aims: To determine the clinical course, treatment response, outcomes and complications in ulcerative colitis patients.

Methods: It is the ongoing cross-sectional study started in January 2024 till to date at Jinnah Postgraduate Medical Centre Karachi, Pakistan. All patients presented with signs and symptoms of IBD were included in the study. Data was collected on a structured questionnaire. Data analysis was done on SPSS version 23 and results were obtained through frequency and percentages.

Results: A total of 210 patients were included in the study out of which 123 patients of infective colitis were excluded and 88 patients were included of which 40 (45.5%) were males and 48 (54.5%) were females with means age of 35.70±13.1. The duration of the disease was more than 6 months. Most common symptoms were blood in stools 74 (81.2%) followed by weight loss 72 (72.7%) and abdominal pain 62 (70.5 %). Frequency of diarrhoea of > 6 episodes was found in 47 (53.4%) patients. Severe ulcerative erythematous mucosa with loss of mucosal vascularity was found in 59 (67%) patients. Truelove and Witts criteria was observed, 74 (81.2%) patients had ≥6 blood stained stools/day along with other parameters of severe form, among which 17 (20%) had 1 additional criterion, 35 (41%) had 2 additional criteria, and 19 (22%) had 3 or more additional criteria on admission. The most common additional criterion was tachycardia (pulse rate >90/min) seen 40 (46%), followed by drop in haemoglobin in 42 (49%), whereas fever was least common, seen in only 09 (11%) of patients. Ten (12%) of patients were falling in moderate category, among which, CRP on admission >30 mg/L was 30 (34%) as 1 additional criterion followed by tachycardia 25 (29%), and ESR >30 mm/h was seen in only 5 (6%) of patients. None of the patients were in mild form of UC.

All patients received IV hydrocortisone (300-400 mg/day IV) and 28 (33%) received rectal steroids, (200 mg/day per rectum), whilst continuing 5-aminosalicylic acid (ASA) therapy, according to the guidelines, as well as antibiotics (ciprofloxacin and metronidazole), given the prevalence of gastrointestinal infection in Pakistan. Blood transfusion was given as required (haemoglobin <80 g/L), mucosal biopsies were taken during colonoscopy to diagnose UC and exclude cytomegalovirus (CMV) and other infection. Oxford criteria were used to identify patients at high risk of colectomy and if unresponsive to 5 to 7 days of IV corticosteroids, rescue therapy or colectomy was advised. The choice, decision, and timing of colectomy was arrived at after a joint medical surgical review and patient counselling. Patients responding to IV corticosteroids were discharged on 40 mg/day prednisolone with a tapering period of 3 to 4 months, along with azathioprine. ASA alone was given in 25% patients, AZA in 89.8%, systemic steroids in 85.2% and topical steroids in 13% patients respectively. Surgery was done in 04% patients; while 1(1.14%) patient had perforation and 1(1.14%) had fistula formation.

Conclusion: The incidence and prevalence of UC is increasing worldwide, especially in the developing countries. Treatment goals are to minimize symptoms and progression, improve quality of life and prevent complications of the disease.

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"Colonoscopy with attention, Reliability and excellence - The CARE Project- A Prospective study from tertiary care hospital, Pakistan"

Salma Siddiqui, Masood M Karim, Maha Inam, Umar Tariq, Zainish Hajani,

Faisal W. Ismail

Abstract:

Objectives: CRC is preventable and curable, and current studies advocate for colonoscopy as a preferred screening modality. A quality review of the colonoscopies performed at our centre over a three-month period showed that up to 25.7% of colonoscopies were reported to have inadequate bowel preparation. These findings formed the basis of our needs assessment for this interventional study.

Material and method: Educational intervention through a workshop for hospital staff about evidence-based colonoscopy preparation best practices. Age, gender and occupation of all the staff members were recorded. Pre and post tests were conducted to check the impact on the knowledge of healthcare workers regarding colonoscopy bowel preparation. At the end of the workshop, all participants were provided a self efficacy questionnaire to gauge their confidence in 11 aspects of the colonoscopy counselling and preparation procedure before and after the workshop.

Results: 28 staff members were in study. Mean score in the pretest was 8.2 which increased to 10.6 in the post-test it was statistically significant ($p<0.05$). Mean total self efficacy score across 11 objectives before the intervention was 39.1 (71.1%) and it increased to 51.0 (92.8%) post intervention ($p<0.05$). A post-intervention review of colonoscopy over three months revealed the incidence of adequate bowel preparation increased to 92.8% (as opposed to 74.3% previously).

Conclusion: It first of its kind to show that this was successful in an inter-professional cohort of health workers and our intervention to be objectively impactful in improving the status of bowel preparation at our institute.

"Clinicopathological characteristics of Colorectal Cancer. A Retrospective Cross-Sectional Study from the Largest Tertiary Referral Hospital of Karachi."

Nimrah Mehak Rana, Nazish Butt, Ghulam Mohiuddin, Ghulam Haider

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Abstract:

Introduction: Colorectal cancer (CRC) is a global health problem. It is cancer of the colon, appendix and rectum. According to GLOBOCON 2018, It is the 4th most common cancer in the world and the third leading cause of cancer mortality. The expected rise of the CRC rate to 60% by year of 2030 globally, will result in 2.2 million new cases and 1.1 million deaths annually. CRC is Heterogeneous,70% cases of CRCs are sporadic in onset, 10-30% are familial and 5-7% are due to hereditary diseases.

Objective: To evaluate the clinicopathological features of Colorectal Cancer (CRC)

Method: This was a cross-sectional retrospective study conducted at the Gastroenterology Department and Oncology Department of JPMC, Karachi from January 2018 till December 2022. All patients with CRC were included in the study. The diagnosis was made on Histopathology findings. The data obtained was analyzed on the statistical software SPSS version 23. Descriptive statistics were obtained by frequencies and percentages.

Results: In this study total 1149 patients were enrolled with CRC and 566 patients were analyzed. The most common age group was 40 -60 years of age. The majority, 382 (64.7%) patients were male and 184 (32.6%) were female. Smoking has a strong association, 51 (9.0%) were active smokers followed by Gutka addiction in 21 (3.7%). Colonoscopy revealed polypoidal growth in 387 (68.3%) of patients followed by ulcerated lesions in 101 (17.8%). The most common site of CRC was Rectum affecting 263 (46.4%) followed by Sigmoid colon 219 (38.6%) and the least common site was Ascending colon affecting 7 (1.2%). Moderately differentiated Adenocarcinoma was the most common histological type found in 468 (82.5%) and 52 (10.2 %) having signet ring type. The common clinical presentation was abdominal pain 255 (45%), Bleeding per Rectum 178 (31%), constipation 164 (28%), altered bowel habits 88 (15.5%), diarrhea 47 (8.3%), weight loss 64 (11.3%), perianal pain 25 (4.4%).

"Enhanced Dysplasia Detection in Inflammatory Bowel Disease: A Comprehensive Meta-Analysis of Dye-Based Chromoendoscopy Versus High-Definition White Light Endoscopy"

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2: NYC Health + Hospitals/Woodhull, Brooklyn NY, USA

Abstract:

Background: Patients with inflammatory bowel disease (IBD), particularly those with long-standing ulcerative colitis, are at a higher risk of developing colorectal cancer. Surveillance colonoscopy is critical for detecting dysplasia early. This meta-analysis investigates the efficacy of dye-based chromoendoscopy (DCE) compared to high-definition white-light endoscopy (HD-WLE) for identifying dysplasia in IBD patients.

Methods: A thorough search of PubMed, EMBASE, and Web of Science databases was conducted to identify randomized controlled trials (RCTs) comparing DCE and HD-WLE in IBD patients undergoing colonoscopic surveillance. The primary endpoint was the proportion of patients with at least one dysplastic lesion identified. Odds ratios (OR) with 95% confidence intervals (CI) were calculated using a random-effects model, and heterogeneity was assessed using the I^2 statistic. Analysis was performed using RevMan 5.3 reporting odds of detecting dysplasia.

Results: This meta-analysis included seven RCTs comprising 1,050 patients (DCE = 510; HD-WLE = 540). Dye-based chromoendoscopy identified dysplasia in a significantly higher percentage of patients compared to high-definition white-light endoscopy (19.7% vs. 11.2%), with an odds ratio (OR) of 2.14 (95% CI 1.35–3.42, I^2 = 23%, P = 0.004). Subgroup analysis excluding two studies available only as abstracts confirmed the robustness of these findings. High-grade dysplasia detection was higher in the DCE group (3.3%) compared to the HD-WLE group (1.5%); however, this difference did not reach statistical significance (OR 2.48, 95% CI 0.75–8.12, I^2 = 0%). Despite the lack of statistical significance for high-grade dysplasia, the overall results demonstrated the superiority of DCE for dysplasia detection. The heterogeneity for overall dysplasia detection was low (I^2 = 23%), and the quality of evidence assessed through GRADE was high for detecting any dysplasia. These findings suggest that DCE provides significant advantages in identifying dysplasia during surveillance colonoscopy in patients with inflammatory bowel disease.

Conclusion: This analysis indicates that DCE is more effective than HD-WLE in detecting dysplasia in IBD patients, even when high-definition imaging technology is used. DCE should be prioritized for surveillance in high-risk IBD patients when expertise is available. Future multicenter studies with diverse operators and extended follow-up are necessary to evaluate its impact on cancer prevention and overall survival.

"Variable presentation of Celiac disease in Pakistan: A rural hospital based study"

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Abstract:

Objective: To determine the frequency of variable presentation of celiac disease in patients

presented at rural based hospital.

Material and methods: An observational study was conducted from April 2022 to April 2023 at gastroenterology department CAT-B hospital Malakand Dargai KP, Pakistan on 20 patients presented with celiac disease. Frequency of variable presentation of celiac disease was determined.

Results: The mean age was 24.30±12.410 years. Majority of the patients were females. The most common presentation of celiac disease was chronic diarrhea 55% followed by microcytic hypochromic anemia 35%, osteoporosis 20% and infertility 15%.

Conclusion: From our study we conclude that the most common presentations of celiac disease were chronic diarrhea and microcytic hypochromic anemia followed by osteoporosis and infertility.

Keywords: Celiac disease, variable presentation, chronic diarrhea, pediatrics, adults

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"A rare cause of Gastric malignancy with liver metastasis in a young Patient"

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2. Aga Khan Hospital, Karachi.

Abstract:

Gastrointestinal stromal tumors (GISTs) are rare tumors accounting for 0.1%–3% of all gastrointestinal (GI) cancers[1]. GISTs mostly involve the stomach (60%) and 20%–25% are malignant, with metastases involving the liver or peritoneum[2]. Gastric GISTs with liver metastases in teenagers are extremely rare. In the literature, only three such cases have been reported so far. Here, we present a rare case of a 19-year-old male with no known comorbid presented with complaints of black stools on and off for 11 months. Esophagogastroduodenoscopy (EGD) showed large polypoidal growth in the fundus of the stomach; multiple biopsies were taken. Histopathology confirmed the diagnosis of GIST. Computed Tomography (CT) scan showed a gastric mass of 16 cm with metastasis involving both lobes of the liver. The patient was started on Imatinib. He has been under continuous follow-up for the last 5 months.

Keywords: Gastrointestinal stromal tumors, teenagers, Stomach, Liver Metastasis.

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"Incidence of H. pylori Infection and Its Association with Dietary Habits: A Cross-Sectional Study"

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Abstract:

Background: Helicobacter pylori (H. pylori) is a major bacterial pathogen that contributes to various gastrointestinal disorders, including chronic gastritis, peptic ulcers, and gastric cancer. The transmission of this infection is influenced by several factors, and among them, dietary habits and hygiene practices have been recognized as significant contributors.

Objective: This study aims to determine the prevalence of H. pylori infection in young adults and explore the between H. pylori infection and dietary habits, specifically focusing on the consumption of spicy foods, processed meals, and hygiene practices.

Methodology: A cross-sectional study was conducted from August 2024 to January 2025, involving 127 participants aged 18–40 years. Participants were selected from outpatient clinics and student populations. H. pylori infection was diagnosed using a stool antigen test. A structured questionnaire was used to gather information on dietary habits, including:

Frequency of spicy, fried, and processed food consumption

Intake of unhygienic street food and fast food

Hand hygiene practices before meals

Presence of gastrointestinal symptoms, such as acid reflux, bloating, and abdominal pain

Data analysis: The data were analyzed to assess the relationship between diet, hygiene, and H. pylori infection. Statistically significant results were considered if the p-value was below 0.05.

Results: Out of 127 participants, 60 (47.2%) tested positive for H. pylori. Key findings include:

Spicy food consumption: 71% of infected individuals consumed spicy food regularly, compared to 48% of non-infected participants.

Processed and fast-food intake: 64% of those with H. pylori infection consumed processed or fast food regularly, compared to 39% of non-infected individuals.

Hand hygiene: 58% of infected participants had poor hand hygiene before meals, compared to 33% of non-infected individuals.

Gastrointestinal symptoms: H. pylori-positive individuals reported symptoms like acid reflux and bloating 1.8 times more frequently than non-infected participants.

Conclusion: This study reveals a high prevalence of H. pylori infection (47.2%) among young adults, with a significant association between the infection and dietary habits such as the consumption of spicy, processed, and unhygienic foods, as well as poor hand hygiene. These findings underscore the importance of promoting dietary modifications and improving hygiene practices to reduce the risk of H. pylori infection and its associated diseases in young adults.

Keywords: H. pylori, dietary habits, gastrointestinal health, spicy food, fast food, hygiene, cross-sectional study

"FOLFOXIRI plus Bevacizumab versus FOLFOX/FOLFIRI plus Bevacizumab for metastatic colorectal cancer: an updated meta-analysis"

Amna Ehsan [1], FNU Muhibullah [2]

1. Nishtar Medical University, Multan
2. West Virginia University, WV, USA

Abstract:

Introduction: Colorectal cancer (CRC) is the third most common malignancy and the second most common cause of death in males. Over half of the patients with CRC develop metastasis, which worsens the prognosis. Resection of metastases has been shown to significantly improve survival among CRC patients. For inoperable disease, first-line treatment for metastatic CRC is usually a combination of cytotoxic drugs with a biologic, such as bevacizumab (Bev). Previous studies have favored triplet chemotherapy (FOLFOXIRI) plus Bev over doublet chemotherapy (FOLFOX or FOLFIRI) plus Bev for metastatic CRC. In this updated meta-analysis, we aim to provide a comparison of the efficacy of FOLFOXIRI+Bev with FOLFOX/FOLFIRI+Bev.

Methods: We searched various databases from their inception to January 2025. We included studies comparing the efficacy of triplet chemotherapy plus Bev with doublet chemotherapy plus Bev in mCRC. Efficacy outcomes included progression free survival (PFS), overall survival (OS) at a 12-month interval, and adverse effects (grade ≥ 3). Data were pooled using a random effects model and analyzed using RevMan 5.4 software. Odds ratios (OR) with a 95% confidence interval (CI) were reported.

Results: Seven full-text studies met the inclusion criteria, with six of them being randomized controlled trials and one being an observational study. Total patient population was 1586. Compared to the FOLFOX/FOLFIRI+Bev group, the FOLFOXIRI+Bev group showed higher PFS [odds ratio (OR) 3.08, confidence interval (CI) 2.557-3.606, P<0.01, I2 n= 96%]. The FOLFOXIRI+Bev group had a slightly higher risk of developing grade ≥ 3 adverse effects, but this association was not significant [OR 1.013 CI 0.874-1.174; p = 0.86; I2 = 78%]. The FOLFOXIRI+Bev group also had a slightly higher overall survival rate but this association was also not significant [OR 1.072, CI 0.938-1.225, p = 0.31, I2 = 71%].

Conclusion: In this updated meta-analysis, we were able to demonstrate that FOLFOXIRI+Bev can significantly increase PFS in patients with metastatic CRC. PFS is an important clinical endpoint in patients with advanced malignancies. However, results for OS at 12 months and adverse events grade ≥ 3 could not demonstrate the superiority of one type of treatment over the other.
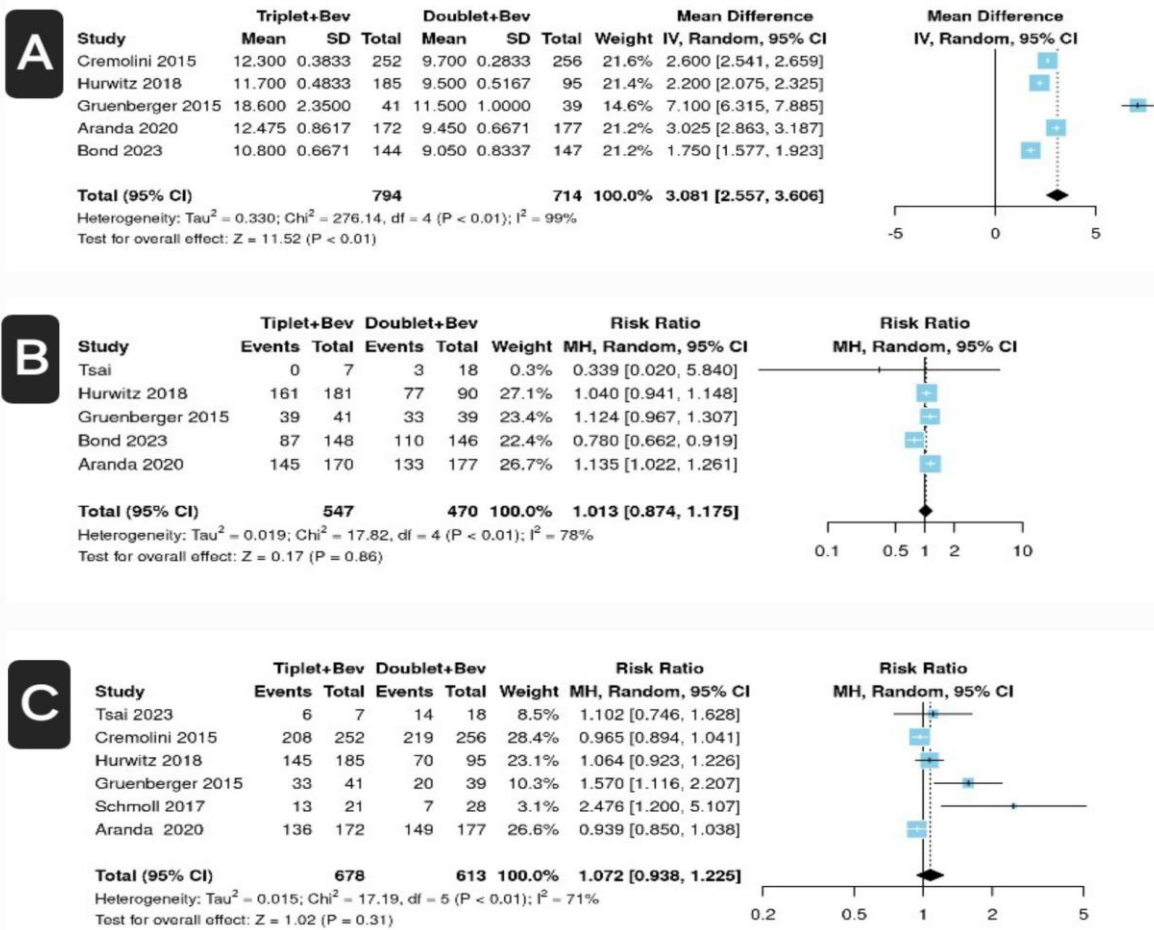
Figure: Forests plots for FOLFOXIRI + Bev versus FOLFOX/FOLFIRI + Bev in metastatic colorectal carcinoma (a) mean profession free survival (b) adverse events (grade ≥ 3)

(c) overall survival at 12-month interval

Table: Baseline characteristics of included studies. Abbreviation: RCT, randomized controlled trial

Study	Design	Trial Name	Trial Phase
Tsai 2023	Observatioanl		
Cremolini 2015	RCT	Tribe	3
Hurwitz 2018	RCT	Steam	2
Gruenberger 2015	RCT	Olivia	2
Schomoll 2017	RCT	Charta	2
Aranda 2020	RCT	Visnu-1	3
Bond 2023	RCT	Cairo	3

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"To assess disease perception in patients with inflammatory bowel disease patients presenting in a tertiary care hospital in Karachi"

Abstract:

Introduction: IBD is a chronic inflammatory disease of GI tract and is mainly Crohn's disease & ulcerative colitis. It occurs in genetically susceptible individuals after an exaggerated immune response to environmental stimuli.

Aim of study: to uncover illness perception of patients to improve their clinical outcomes.

Objective: To assess disease perception in patients with IBD patients presenting in tertiary care hospital in Karachi.

Material and Methods: This cross sectional study was done in all in & out patients aged 18 + years with IBD for > 6months, presenting in GI Dept. at Liaquat National hospital, Karachi. IPQ-R (illness perception questionnaire) was used to assess illness perception. Data was analyzed using SPSS version 21.

Results: 29 patients have been studied till now, average age 37.4 ± 14 years. More than half of patients were female (57.7%). Average disease duration was 7.8 ± 9.5 years. Patients had presenting complaint of bleeding PR (65.4%), abdominal pain (61.5%) & diarrhea (42.3%). Majority had UC (76.9%). Out of 22 (76.9%) patients with UC, 3 had remission, 10 had mild and 7 had moderate & 2 had severe disease. Out of 7 (23.1%) patients with Crohn's, 1 had mild, 1 had remission and 3 had moderate & 1 had severe disease. IPQ-R scale showed average score for identity, timeline, timeline cyclical, consequences, personal control, treatment control illness coherence, emotional representation 4.7 ± 2.5, 37.6 ± 4.5, 14.1 ± 2.5, 20.2 ± 3.1, 18.7 ± 2.8, 16.5 ± 1.6, 14.9 ± 3.0 and 25.7 ± 3.7 respectively.

Discussion: Most IBD patients have fear of flare and complications due to its unpredictable nature which may affect personal & social relationships. Patients with active disease have more negative thoughts which can reduce their trust in treatment while patients in remission phase have positive influence on illness perception.

Conclusion: The result provide evidence for assumption of IPQ-R scale and suggest the importance of addressing illness, perception for improving quality and health care of IBD patients.

"Ileocecal Intussusception Secondary to Giant Ileal Lipoma in Patient with Chronic Constipation: A Case Report"

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2. Khyber Teaching Hospital, MTI KTH, Peshawar, Pakistan

Abstract:

Introduction: Intussusception in adults is rare, comprising 5% of cases, and is often associated with pathological lesions like polyps or tumors. Symptoms vary widely from acute obstruction to incidental findings on imaging. Surgical intervention is typically necessary to address the underlying cause, such as gastrointestinal lipomas found predominantly in the right colon. This report highlights a case of ileocolic intussusception due to a giant terminal ileal lipoma incidentally found during a colonoscopy.

Case report: A 53-year-old male presented with chronic constipation, mild abdominal pain, and rectal bleeding for two years. The patient used laxatives in the past for constipation but it did not improve. A colonoscopy revealed protrusion of the small intestine through the ileocecal valve into the cecum with a 3cm lipoma as the leading point. A CT scan of the abdomen was performed, revealing findings suggestive of intussusception. The patient underwent laparotomy, the lipoma was excised, and the intussusception was resolved.

Conclusion: Intussusception in adults can present with chronic constipation and mild abdominal discomfort. The causes of intussusception in patients, such as lipoma, tumor, or polyp, can be found accidentally during routine colonoscopy

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"A Hairy Tail in the Stomach: A Silent Warning"

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Abstract:

Trichotillomania is a psychiatric disorder in which one is urged to pull hairs and eyelashes out. Trichophagia is a condition in which one urges to eat these pulled-out hairs, resulting in Rapunzel syndrome (a rare disorder where gastric trichobezoars traverse into the small intestine and can lead to intestinal obstruction). Here we present two case reports, one is a 17-year-old boy who explained to us a history of recurrent pancreatitis and microcytic anemia., The second patient was a 16-year-old female presenting with complaints of epigastric pain and non-projectile foul-smelling vomiting associated with a low-grade fever. Both have a history of depression and compulsive hair-pulling and eating. After successful surgical management, both patients were eventually referred to Psychiatry.

Keywords: Trichotillomania, Trichobezoars, Rapunzel syndrome, Trichophagia.

"Ulcerative Colitis: Clinical manifestations, treatment and outcomes. An experience of a tertiary care hospital in Karachi, Pakistan"

Nazish Butt[1], Omar Idris[1,] Marium Akram[1], Ghulam Mohiuddin[1], Shahid Pervez[2]

1. Jinnah Postgraduate Medical Center, Karachi, Pakistan.
2. Aga Khan Hospital, Karachi.

Abstract:

Rosai Dorfman Disease (RDD), also called Sinus Histocytes, is a rare disease of enlarged lymph nodes with no known etiologies. It mainly involves the cervical lymph nodes. Involvement of the isolated mesenteric lymph nodes has not been reported previously. Herein, we report a case of mesenteric lymph node involvement by RDD, which occurred in a 16-year-old boy. He presented with intermittent right lower quadrant pain, fever, altered bowel habits, and weight loss for the last 2 months. The clinical and radiological findings were consistent with lymphoma with ileoileal intussipation. The patient underwent a laparoscopic biopsy of the lymph node. Histopathology and immunochemistry studies of the lymph node confirmed the diagnosis of RDD. The clinical symptoms and lymph nodes resolved spontaneously after 6 months of keen observation, confirmed on a Positron emission tomography (PET) scan.

Results: In this study total 566 patients of CRC and Young patients 117 were analyzed. The majority, 67 (57.3%) patients were male and 50 (42.7%) were female. Most commonly present in Urdu speaking 47(40%) followed by Sindhi 40 (34%) and Pathan and Panjabi 13(11%). Smoking has a strong association,13(9%) were active smokers followed by Naswar 8 (6%).Most common area was from Orangi Town 8(6%) followed by Korangi 3(4%) Colonoscopy revealed polypoidal growth in 79 (67%) of patients followed by ulcerated lesions in 23 (19.7%). The most common site of CRC was Rectum affecting 48 (41%) followed by Sigmoid colon 46 (39.3%) and the least common site was Ascending colon 7(2.6%). Moderately differentiated Adenocarcinoma was the most common histological type found in 96 (82.5%) and 17 (10%) having signet ring type. The common clinical presentation was abdominal pain 64 (53%) constipation 45 (38.5%) and Bleeding per Rectum 42 (36%),

Keywords: Rosai Dorfman Disease, sinus histocytes, mesenteric lymph nodes, spontaneous resolution.

"Colorectal Carcinoma in Young patients, single Centre study from Karachi, Pakistan"

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Abstract:

Introduction: Colorectal cancer (CRC) is rising among young adults. It is cancer of colon, appendix and rectum. According to GLOBOCON 2018, It is the 4th most common cancer in the world and the third leading cause of cancer mortality. The expected rise of the CRC rate to 60% by year of 2030 globally, will result in 2.2 million new cases and 1.1 million deaths annually. CRC is Heterogeneous,70% cases of CRCs are sporadic in onset, 10-30% are familial and 5-7% are due to hereditary diseases.

Objective: To evaluate the clinicopathological features of Colorectal Cancer (CRC) among young adults under the age of 30$%)

Method: This was cross-sectional Retrospective study conducted at the Gastroenterology and Oncology Department of JPMC, Karachi from Jan. 2018 till Dec. 2022. All patients with CRC under age 30 were included in the study. Diagnosis was made on Colonoscopy and histopathology confirming CRC.The data obtained was analyzed on the statistical software SPSS version 23. Descriptive statistics were obtained by frequencies and percentages.

Conclusion: CRC is the leading cause of mortality. It is on rising pattern among young adults, most commonly involving the left side of the colon. We need more studies to make guidelines for screening and surveillance of CRC in our population.

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"Comparison of symptoms relief with medications only versus medications plus lifestyle modifications in gastroesophageal reflux disease patients"

Adnan Salim, Zia Ur Rehman, Gulzar Hussain, Farhan Mengal & Kashif Malik

SHAIKH ZAYED HOSPITAL/ FPGMI LAHORE

Abstract:

Background: Gastroesophageal reflux disease (GERD) is the most common chronic digestive disorder in which the reflux of gastric contents into the esophagus through the incompetent lower esophageal sphincter causes troublesome symptoms and complications. Life style behaviors are considered as potential aggravating factors for gastroesophageal reflux disease. The behaviors that are associated with gastroesophageal reflux disease are family history of gastroesophageal reflux disease, obesity, sedentary lifestyle, smoking, analgesics use, low fibers diet, tea, greasy and fast foods consumption.

Objective: The objective of the study was to compare the symptomatic improvement with medications only versus medications plus lifestyle modifications in gastroesophageal reflux disease patients.

Duration of study: From **25th January, 2023** to **25th July, 2023**.

Study design: Randomized Controlled Trial.

Results: A total of 208 patients participated in the study. The age-wise distribution was 15-19 Yrs-11 (5.3%), 20-29 Yrs-67 (32.2%), 30-39 Yrs-53 (25.5%), 40-49 Yrs-43 (20.7%), 50-59 Yrs-25 (12.0%) and 60 Yrs-9 (4.3%). 69 (33.2%) patients were male and 139 (66.8%) were female. Stool for Helicobacter Pylori advised to all patients but only 127 patients performed this test [Positive=65 (31.3%) and Negative=62 (29.8%)]. EGD performed only by 13 (6.3%). 30 patients (out of 104) improved with only medications but 86 patients (out of 104) improved with medications plus lifestyle modifications.

Conclusion: It is concluded that those patients of gastroesophageal reflux disease who are following lifestyle modifications along with medications, improved more symptomatically. 82.69% patients improved with medications plus lifestyle modifications.

Lifestyle modifications reduce the GERD symptoms and stop sole reliance on medications.

Keywords: Gastroesophageal Reflux Disease, Lifestyle Modifications, Heart Burn and Regurgitation.

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"Frank Hematochezia with Disseminated Tuberculosis"

Abstract:

We describe a case of an 18-year-old young woman who presented with concerns of epigastric pain and vomiting lasting two weeks. An early diagnosis of disseminated tuberculosis was given based on her pulmonary and extrapulmonary findings. Although tuberculosis comprises a large proportion of Pakistan's infectious disease burden, the clinical deterioration to massive hematochezia despite the initiation of antituberculous treatment has not been reported before. This case report emphasizes the early diagnosis and treatment of disseminated tuberculosis to decrease mortality and morbidity.

Case Presentation

An 18-year-old woman presented to the emergency department with a two-week history of severe epigastric pain and vomiting. She also reported a two-month history of low-grade intermittent fever associated with unintentional weight loss, productive cough and vague abdominal pain. On presentation she was pale, afebrile, and hemodynamically stable. Physical examination revealed tenderness in her epigastric region on deep palpation, but other findings were unremarkable.

Table 1 presents the results of her initial laboratory investigations. Anemia from chronic disease was depicted by microcytic hypochromic anemia and thrombocytosis. Her renal function test results, thyroid profile, and serum amylase screenings were normal. However, her alanine transaminase, international normalized ratio, serum ferritin, and inflammatory markers were elevated with a corresponding decrease in serum albumin and iron. Furthermore, her viral serology was negative for Hepatitis B, C, and human immunodeficiency virus.

Analytes	Result	Reference Range
Hemoglobin (g/dl)	8.4	12.0-15.0
Mean corpuscular volume (fl)	75.5	80-94
Serum Ferritin (ng/ml)	602	12-150
Serum Iron (µg/dl)	41	60-170
White Cell Count / L	8.9x10^9	4.0-10.0
Platelet Count / L	510x10^9	150-300
Renal Function Tests (mmol/l)		
Serum urea	4.0	2.5-10.7
Serum creatinine	80	62-106
Serum sodium	140	135-145
Serum potassium	4.3	3.5-5.0

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Liver Function Test (U/L)		
Serum Bilirubin (µmol/L)	5	5-17
Serum Alkaline Phosphatase	639	35-130
Serum Alanine Transaminase	25	5-40
Serum Albumin	21	35-50
Inflammatory Markers		
C-Reactive Protein	34.2	>6
Erythrocyte Sedimentation Rate (mmHg)	37	10
Serum Amylase	87	60-18
Viral Serology		
Anti HCV	NEGATIVE	
HBsAg	NEGATIVE	
HIV	NEGATIVE	
Thyroid Function Tests		
Serum T3 (ng/mL)	122	60-181
Serum T4 (ng/mL)	10.1	4.5-10.9
Serum TSH (µU/mL)	1.95	0.5-4.7
International Normalized Ratio	1.5	1.0

Her chest x-ray (Figure 1) revealed extensive bilateral ill-defined parenchymal opacities in the perihilar, middle, and lower lung zones with bilateral mild pleural effusion. These results raised a high suspicion of pulmonary TB, confirmed by a positive Gene Xpert sputum test for Mycobacterium tuberculosis (M.tb) showing no resistance to rifampicin. An abdominal ultrasound reinforced the presence of moderate bilateral pleural effusion, abdominopelvic ascites, and coarse liver echotexture. Contrast-enhanced computed tomography of her chest, abdomen, and pelvis revealed multisegmental pulmonary consolidations, bilateral pleural effusion, moderate ascites, enlarged abdominal and mediastinal lymph nodes and hepatomegaly. A diagnosis of disseminated TB was formulated, and anti-TB treatment (ATT) was initiated with rifampicin, isoniazid, pyrazinamide, and ethambutol in weight-adjusted doses.
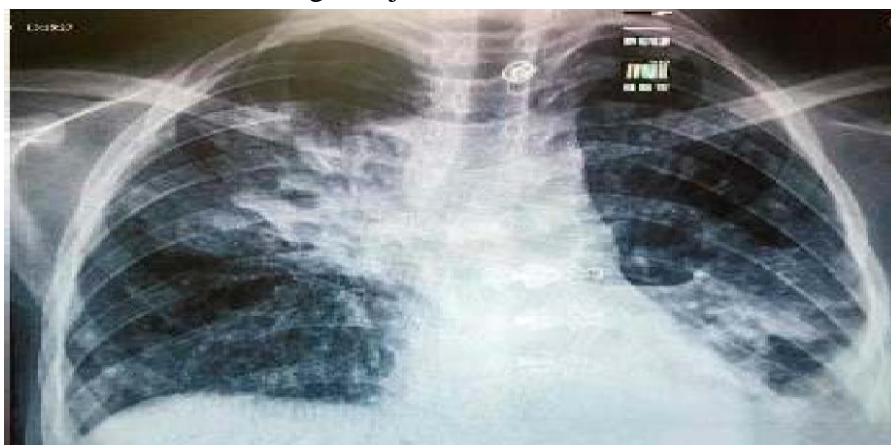
FIGURE 1: Chest x-ray showing extensive bilateral, ill-defined parenchymal opacities with bilateral pleural effusion

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After a visible improvement in her symptoms, a subsequent deterioration was noted with an acute onset of massive hematochezia and a simultaneous decline in liver function, which forced the clinicians to withhold the drug regimen. She was managed initially with multiple blood and fresh frozen plasma transfusions.

There was significant blood loss leading to a fall of 4 g/dL of hemoglobin. An attempt to prevent hypovolemic shock with blood and blood product transfusions failed, and the patient was thereafter managed in an intensive care unit.

An upper GI endoscopy revealed nothing remarkable. A colonoscopy showed intraluminal blood clots, and the ileocecal junction was identified as the source of bleed. This was followed by an emergency laparotomy that reinforced the previous findings and revealed multiple tuberculomas disseminated all over the intestines (Figure 2). The patient was subjected to a right hemicolectomy followed by a double- barrel ileostomy. The excisional biopsy unveiled well-formed epithelioid granulomas (Figure 3), and the recovered lymph nodes had multinucleated giant cells with extensive areas of caseation (Figure 4).

FIGURE 2: Specimen of right sided hemi-colectomy

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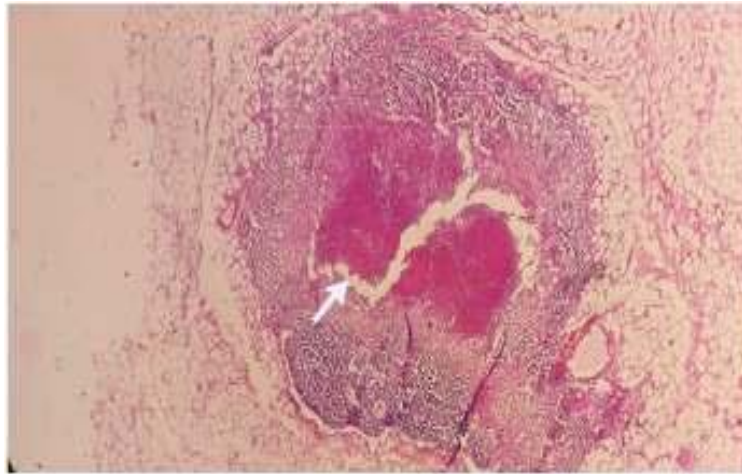
FIGURE 4: Histological slide of lymph node showing foci of caseation.

Although there was timely intervention at every step of the management, our patient could not be resuscitated from the sequential hypovolemic shock and disseminated intravascular coagulation (DIC), and she died on her second postoperative day.

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"The overlooked connection between the inadequate water intake and dyspeptic symptoms among senior citizens"

Kiran Bajaj, Shahid Karim, Afsheen Faryal, Maryam Amjad, Dheeraj Kumar

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Abstract:

Introduction & Background: Dyspepsia, commonly known as indigestion, is a medical condition characterized by discomfort or pain in the upper part of the abdomen. One of the potential factors linked to the development of dyspepsia is inadequate daily water intake. Water constitutes 75% of body weight in infants and 50% of body weight in adults. Adequate hydration and proper water intake prevents dyspepsia by altering gastric ph. They suggest that a good rule of thumb is to drink half your body weight in ounces of water per day.

Study Aim and objective: The aim of this study is to investigate the water intake habit among the different age groups population and its association with dyspetic symptoms by assessing the relationship of adequate water intake with dyspepsia according to SF-LEEDS questionnaire.

Patients and Methods: This is Cross Sectional, comparative and prospective study was conducted, in 2021-22, at the Department of Gastroenterology, Liaquat National Hospital, and Karachi. Total 450 patients were all adults with either gender, age ³ 18 years old, presented in OPD with dyspeptic symptoms were enrolled for study after informed consent. Dyspepsia diagnosed by SF-LEEDS questionnaire with 32 max score. It was categorized into mild, moderate and severe with score of £10, 11-20, ³ 21 respectively. Water intake habits were asked along with other risk factors.

Results: Total 450 patients were enrolled in our study with median age of participants was 43 (IQR= 30-55) years. And (58.7%) were males. Patients presented with mild (n=19, 4.2%), moderate (n=95, 21.1%) and severe dyspepsia (n=336, 74.7%) with median Leed's score of 20 (IQR= 17-22). Sign of dehydration including dry tongue (n=175, 38.9%), tachycardia (n=13, 2.9%) and reduce skin turger (n=3, 0.7%) were present in among studied patients. Median daily water intake, recommended water intake, percent of having recommended water and SFLD score was 6 (5-7) glasses, 8.8 (7.5-10.16) glasses, 68.87% (54.76-84.18) and 20 (17-22) respectively. Our study showed that overall daily water intake habit was around 1-2 liters i.e., 50%-80% of the recommended daily water intake.

Conclusion: Health care providers may consider recommending increased water intake as a part of the management of dyspepsia. It can reduce the unnecessary over medication and patient can be benefitted with simple cost-effective lifestyle modification. However, caution should be made in patients with advanced age with comorbid such as chronic kidney disease, heart failure and patients with previous history of gut surgeries.

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"Unlocking the Potential of Zolbetuximab in CLDN18.2-Positive Gastric Cancer: A Comprehensive Systematic Review of Clinical Efficacy and Safety"

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2. Peshawar General Hospital, Pakistan
3. Northwest General Hospital, Pakistan

Abstract:

Background: Zolbetuximab, a monoclonal antibody targeting Claudin 18.2 (CLDN18.2), has demonstrated efficacy in treating CLDN18.2-positive gastric cancer by inducing cytotoxicity in cancer cells. This review evaluates its clinical impact on survival outcomes and safety profile.

Methods: A systematic search of Medline, PubMed, Google Scholar, and PsycINFO up to January 20, 2025, identified 324 studies, of which 20 met inclusion criteria. Eligible studies reported progression-free survival (PFS) and overall survival (OS). Data were extracted using Rayyan software, and statistical analyses, including random-effects models, were performed using SPSS. Confounding factors were addressed through multivariate regression, and the study protocol was independently reviewed.

Results: In 20 studies involving 3,217 patients, zolbetuximab combined with chemotherapy improved PFS by 6.8 months (95% CI: 5.7–7.9) and reduced the risk of death (HR: 0.68, 95% CI: 0.56–0.81). Notably, the FAST trial reported a median OS increase from 8.4 to 13.2 months (HR: 0.72; P < .01), and the SPOTLIGHT trial found PFS extended to 11.0 months versus 8.9 months (HR: 0.73; P = .0024), with OS reaching 18.2 months in the zolbetuximab arm. Common adverse events included nausea (32%), vomiting (24%), and fatigue (18%), with dose-limiting toxicities in 8%. The recommended dose of 800 mg/m² biweekly demonstrated sustained target engagement, with a median half-life of 12 days.

Conclusion: Zolbetuximab significantly improves survival outcomes in CLDN18.2-positive gastric cancer with manageable toxicity. These findings support its use in combination with chemotherapy and highlight the need for further trials to optimize dosing and explore novel combinations.

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"Incidence and Characterization of Small Intestinal Bacterial Overgrowth (SIBO) in Non-Alcoholic Fatty Liver Disease (NAFLD) Patients"

Shamim Nazir, Zaigham Abbas, Darayus P. Gazder, Aqsa Shahid, Manesh Kumar, Sania Maqbool

Abstract:

Background: The correlation between Small Intestinal Bacterial Overgrowth (SIBO) and Fatty Liver Disease has gained heightened acknowledgment, especially in the late phases of liver disease. Despite this, studies focusing on the prevalence and specific characteristics of SIBO within the NAFLD patient population in Pakistan remain sparse. This research seeks to investigate the prevalence and characteristics of SIBO in patients with fatty liver disease in a tertiary healthcare facility in Karachi.

Materials and Methods: Conducted from July 2023 to March 2024 at Ziauddin Medical University Hospital's Clifton Campus, this prospective cross-sectional study included 65 adults aged 18 to 80 diagnosed with NAFLD via FibroScan®. SIBO diagnosis was determined by a Glucose Hydrogen Breath Test (GHBT), with an increase in hydrogen concentration of ≥20 ppm from the baseline within two hours indicating a positive result. Participant demographics, comorbid conditions, and clinical symptoms were documented.

Results: Of the 65 individuals, 46 were male, with an average age of 44.88 ± 12.30 years, a mean BMI of 26.45 ± 6.45 kg/m², and an average waist circumference of 95.20 ± 15.17 cm. Lean NAFLD was observed in 40% of the participants. Frequent comorbidities included diabetes (40%), hypertension (38%), and dyslipidemia (38%). SIBO was identified in 37% of the subjects, 28% of whom were asymptomatic. Symptoms prevalent in SIBO-positive individuals were bloating (41%), belching (26%), and abdominal pain (28%). Liver stiffness indicated that 23% had F2 fibrosis, 28% had F3, and 49% had F4. CAP scores showed S1 steatosis in 37% of patients, S2 in 29%, and S3 in 34%. The presence of SIBO correlated with increasing fibrosis and steatosis levels. SIBO positivity was more prevalent in high Child-Pugh class and in more severe liver dysfunction. With post-treatment giving Lactobacillus reuteri and Rifaximin for two weeks, only 4% remained SIBO-positive. Significant associations of SIBO were also noted with dyslipidemia, hyperuricemia, and irritable bowel syndrome.

Conclusion: This research highlights a significant incidence of SIBO in NAFLD individuals, particularly those with severe liver damage and comorbidities. It stresses the importance of regular screening for SIBO in such patients, suggesting that timely detection and intervention could enhance patient outcomes.

"Radiologic Diagnosis of Rectal Hemangioma: A Rare Finding on CT Imaging"

Ghazala Wahid.

Abstract:

Rectal hemangiomas are rare vascular malformations that often present diagnostic challenges due to their nonspecific clinical manifestations. This case report describes a 42-year-old female patient diagnosed with a rectal hemangioma using computed tomography (CT) imaging. We highlight the imaging features, differential diagnoses, and clinical management strategies for this rare condition.

Introduction Hemangiomas of the rectum are uncommon, accounting for less than 1% of all vascular tumors. They are often asymptomatic but can present with symptoms such as rectal bleeding, pain, or tenesmus. Early diagnosis is essential to prevent complications such as massive bleeding or rectal obstruction. Imaging studies, particularly CT and magnetic resonance imaging (MRI), play a pivotal role in the identification and characterization of these lesions.

Case Presentation A 42-year-old female presented to the gastroenterology clinic with intermittent rectal bleeding and mild discomfort during defecation for six months. There was no history of weight loss, significant pain, or changes in bowel habits. The patient's medical history was unremarkable, and physical examination revealed no abnormalities.

Imaging Findings A contrast-enhanced CT scan of the abdomen and pelvis was performed to investigate the cause of rectal bleeding. The CT scan revealed a well-defined, circumferential lesion in the rectal wall. The lesion demonstrated:

- **Non-contrast phase:** Iso-attenuation relative to the surrounding soft tissue with multiple specks of calcifications.
- Prominent vessels are seen in the lesion and in the perirectal region.

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There is a regular circumferential thickening of the rectal wall with numerous calcifications (phleboliths) within and in perirectal space. Multiple perirectal serpiginous structures, suggestive of vascular origin.

Additionally, no signs of invasion into surrounding structures or distant metastases were observed.

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Differential Diagnosis The imaging features were consistent with a vascular lesion. Differential diagnoses included:

1. **Angiodysplasia:** Usually smaller and less well-defined on imaging.
2. **AVM:** Usually intense enhancement with tangled vessels'

Diagnosis Based on the CT imaging characteristics and clinical presentation, a provisional diagnosis of rectal hemangioma was made. To confirm the diagnosis, endoscopic ultrasonography-guided biopsy was performed, which revealed cavernous vascular channels lined by endothelial cells, consistent with a hemangioma.

Management and Outcome The patient was managed conservatively due to the absence of significant symptoms and complications. Endoscopic sclerotherapy was planned as a precautionary measure to prevent further bleeding. Follow-up imaging six months later showed no change in lesion size, and the patient remained asymptomatic.

Discussion Rectal hemangiomas are rare entities that require a high index of suspicion for diagnosis. CT imaging plays a crucial role in identifying the characteristic enhancement patterns of these lesions. Differential diagnoses should include other vascular anomalies and neoplasms. Management strategies depend on the size, location, and symptoms associated with the lesion. Minimally invasive procedures such as sclerotherapy or surgical resection may be required in symptomatic cases.

Conclusion This case underscores the importance of imaging in the diagnosis of rectal hemangiomas. CT scans, combined with clinical and histopathological correlation, can help distinguish these lesions from other rectal abnormalities. Early diagnosis and appropriate management are critical to prevent complications and improve patient outcomes.

References

1. Higaki S, Tateishi Y, Akiyama T. Imaging findings of rectal hemangiomas: A case series. J Radiol Case Rep. 2018.
2. Markos V, Kelly S, Rowbotham D. Endoscopic management of rectal hemangiomas: A review. Gastrointest Endosc. 2020.

"Frequency of Hiatal Hernia in Patients with Gastroesophageal Reflux Disease Undergoing Esophagogastroduodenoscopy"

Asif Khan, Sher Rehman, Rafiullah, Imran Ulah, Syed M Abuzar

Abstract:

Objective: To determine the frequency of Hiatal Hernia (HH) in patients diagnosed with gastroesophageal reflux disease (GERD) undergoing esophagogastroduodenoscopy (EGD).

Place and Duration: This study was conducted at the Department of Gastroenterology, MTI Hayatabad Medical Complex, Peshawar, from July 2022 to January 2023.

Materials and Methods: A sample of 141 GERD patients aged 16-75 years underwent EGD. Ethical approval was obtained from the institutional review board. informed consent was acquired from all participants before enrollment. Data on demographics (age, gender, BMI), BMI categories, duration of GERD symptoms, and the presence of hiatal hernia (HH) were collected using a structured questionnaire. The questionnaire included sections on demographic details, clinical symptoms (duration and severity of GERD), endoscopic findings (grading of esophagitis and HH), and the classification of HH. The data was analyzed using SPSS version 26, employing chi-square tests to evaluate associations between variables, with statistical significance set at $p < 0.05$.

Results: A total of 67.4% GERD patients were found to have HH, with sliding HH being the most prevalent (34.0%), followed by rolling HH (31.9%). A significant association was observed between high BMI (≥ 25) and the presence of HH (p=0.007). No significant association was found between HH and GERD-related complications (p=0.072).

Conclusion: There is a high prevalence of hiatal hernia among GERD patients, particularly those with elevated BMI. Early detection and management of HH in GERD patients may improve clinical outcomes.

Keywords: Hiatal Hernia, Gastroesophageal Reflux Disease, Esophagogastroduodenoscopy, Body Mass Index.

"Frequency of injudicious prescriptions of proton pump inhibitors from teaching and non-teaching hospitals"

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Abstract:

Objectives: To compare frequency of injudicious prescriptions of PPI from teaching and non-teaching hospitals.

Methodology: This cross-sectional study was conducted in admitted & out-patients of medical/gastroenterology departments of two teaching hospitals, i.e., Civil Hospital Karachi (CHK), Dow International Medical College Hospital (DIMCH) and two non-teaching hospitals Orthopaedic and Medical Institute (OMI) and Anklesaria Nursing Home (ANH). Study period was between 9th July 2023 and 6th July 2024. Patients of either gender aged 18-70 years who had PPI prescription were included. After selection a consultant physician reviewed the PPI prescriptions with regard to indication of PPI and marked them as appropriate or un-appropriate prescription in accordance to published PPI use guidelines published by Food and Drug Administration (FDA), American Gastroenterological Association (AGA), the American College of Gastroenterology (ACG) and the American Society of Health-System Pharmacists (ASHP).

Results: Total of 768 patients fulfilling inclusion/exclusion criteria with PPI prescription were included in the study. These included 384 each in Teaching Hospital and Non-teaching Hospitals, respectively. The gender distribution was 404 (52.6%) males and 364 (47.4%) females. In teaching hospitals there 226 patients were from CHK & 158 from DIMCH. From non-teaching hospitals, 242 were from ANH and 144 form OMI. Gender distribution according to hospital is given in Table **1**. Although 768 patients were inducted, but many had more than one indication, making a total of indications of 1131 in 768 patients. The diagnosis mentioned on prescriptions/discharge slips of patients with PPI prescription is reported according to the hospitals in Table 2. Analyzing the prescription status, it was found that 47.4% of PPI prescriptions were injudicious. Comparing the injudicious prescriptions within hospital type, 45.83% were from teaching hospitals while 48.96% were from non-teaching hospitals. No significant difference was observed in frequency of injudicious prescriptions between teaching and non-teaching hospitals (p = .368). Details are given in **Error! Reference source not found.**.

Conclusion: There is a high frequency of injudicious PPI prescriptions in our settings from both teaching and non-teaching hospitals.

Table 1: Gender distribution according to hospital

Hospitals	Gender Male n (%)	Female n (%)	Total	Sig
CHK	84(20.79)	142(39.01)	226	
DIMCH	76(18.81)	82(22.53)	158	<.001
ANH	228(56.44)	12(3.30)	240	
OMI	16(3.96)	128(35.16)	144	
Total	404	364	768	

Table 2: Indications of patients with PPI prescriptions as per hospitals.

Indications	CHK n (%)	DIMCH n (%)	ANH n (%)	OMI n (%)	Total
Maintenance treatment of erosive esophagitis	7 (2.21)	0	0	0	7 (0.6)
Treatment of symptomatic GERD	104 (32.81)	48 (21.05)	120 (28.44)	8 (4.88)	280 (24.8)
Eradication of helicobacter pylori infection	25 (7.89)	18 (7.89)	24 (5.69)	4 (2.44)	71 (6.3)
Healing and maintenance of duodenal ulcers	2 (0.63)	4 (1.75)	20 (4.74)	10 (6.10)	36 (3.2)
Healing and maintenance of gastric ulcers	0	0	16 (3.79)	0	16 (1.4)
Treatment of Zollinger-Ellison syndrome	0	0	4 (0.95)	0	4 (0.4)
Treatment of NSAIDS induced gastric ulcers	25 (7.89)	14 (6.14)	32 (7.58)	16 (9.76)	87 (7.7)
Suspected upper GI bleeding	10 (3.15)	6 (2.63)	36 (8.53)	10 (6.10)	62 (5.5)
Chest pain with negative cardiac and pulmonary work-up, dyspepsia or GERD	35 (11.04)	10 (4.39)	0	0	45 (4.0)
Gastrointestinal ulcer bleeding prophylaxis	43 (13.56)	18 (7.89)	50 (11.85)	48 (29.27)	159 (14.1)
Injudicious prescription	66 (20.82)	110 (48.25)	120 (28.44)	68 (41.46)	364 (32.2)
TOTAL	317	228	422	164	1131

Table 3: Prescription status by Hospital Type

Prescription Status	Hospital Type Teaching	Non-teaching	Total	Sig
Injudicious Prescription	176 (45.83)	188 (48.96)	364 (47.40)	
Judicious Prescription	208 (54.17)	196 (51.04)	404 (52.60)	.386
Total	384	384	768	

"Recognizing the Celiac Iceberg: An Update on the Changing Face of Celiac Disease"

Dr. Mohsin Rashid MD, MEd, AGAF, FRCP(C)

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Abstract:

Background: Celiac disease (CD) is a chronic disorder in which ingestion of gluten (a protein present in wheat, barley, and rye) leads to small intestinal villous atrophy in genetically susceptible individuals. Celiac disease affects 1% of the population globally. Serological testing is an important tool to screen patients with suspected CD. Confirmation of CD in most cases requires a small intestinal biopsy. The treatment of CD includes a strict gluten-free diet for life and long-term monitoring.

Celiac disease has a broad clinical spectrum with four patterns recognized. In classical CD, the patient presents with features of malabsorption such as diarrhea, steatorrhea, and weight loss or growth failure. In non-classical CD, signs and symptoms of malabsorption are absent and patients might have a variety of other intestinal or extraintestinal symptoms such as constipation, oral ulcers, short stature, anemia, neuropathy, skin rash, fatigue, etc. In both classical and non-classical CD, the serologic test results are abnormal and villous atrophy is present on biopsies. Subclinical CD is when the disease is below the threshold of clinical detection without symptoms or signs sufficient to trigger CD testing in routine clinical practice. Some of these patients might be screened because they have a high risk of developing CD. These patients will have abnormal serologic test results, as well as villous atrophy. In potential CD, previously called latent CD, the patient has an abnormal antibody test result but a normal intestinal mucosa on histology. Several of these individuals will develop the intestinal lesion over time, thus requiring careful monitoring and follow-up.

The face of CD has changed, and classical form is now rare. Delays in diagnosis are common because most patients present with non-classical symptoms. Increased awareness of CD amongst health care providers will lead to a timely diagnosis and prevention of complications.

Objective:

After the presentation, the participants will be able to:

(1). Recognize the changing clinical presentation of celiac disease.

(2). Develop an approach to diagnosing celiac disease.

(3). Identify additional at-risk populations who may benefit from serological screening.

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Hepatology and Pancreatobiliary section

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"Pancreatic Carcinoma: Understanding the Disease Burden and Patient Demographics in Largest Tertiary Care Hospital, Karachi"

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Abstract:

Introduction: Pancreatic cancer (PC) is a deadly form of cancer, causing over 467,000 deaths annually globally. It ranks ninth as a leading cause of cancer death and twelfth in prevalence. Most cases are adenocarcinomas (85%) while pancreatic endocrine tumors are rarer (<5%). Due to challenges in early detection, survival remains low. Understanding the disease's causes and risk factors is crucial for prevention. carcinoma

Aims: To determine the pancreatic carcinoma disease burden and patient demographics at the largest tertiary care hospital in Karachi

Methods: After obtaining IRB approval, data were retrospectively collected from medical records of pancreatic cancer patients diagnosed between 2020 and 2024 at Jinnah Postgraduate Medical Centre, Karachi. Inclusion criteria included ages 14-80 and both genders. Data covered demographics, risk factors, clinical presentation, complications, and treatments, which were recorded on a predesigned proforma and entered into a secure database. Patient confidentiality and ethical standards were strictly upheld.

Results: The study analysed 129 pancreatic cancer patients, with 74 (57.4) males and 55 (42.6) females, and a mean age of 51 ± 16 years. Key risk factors included diabetes in 58 (45.0), chronic pancreatitis in 58 (45.0), obesity in 60 (46.5), and smoking in 87 (67.4) current or former smokers. A family history of cancer was present in 62 (48.1) and Alcohol consumption was reported in 87 (67.4). Most cases were adenocarcinomas in 97 (75.2), with 38 (29.5) diagnosed at Stage IV. Initial treatments were primarily palliative care in 49 (38.0) and chemotherapy in 48 (37.2), 37 (28.7) patients remained under treatment.

Conclusion: The study revealed that Adenocarcinoma was the most common type of CP driven by risk factors like diabetes, obesity, alcohol, and smoking. Most patients received palliative care or chemotherapy, highlighting the need for better early detection and prevention.

"The Detrimental Effect of Autoimmune Hepatitis in Pregnancy: A Systematic Review and Meta-Analysis"

Maaz Bin Badshah.[1], Qaisar Ali Khan.[2], Mah Rukh.[2], Hamza Ali Khan.[2]

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Abstract:

Background: Autoimmune Hepatitis (AIH), a chronic inflammatory liver disease, poses unique challenges during pregnancy. In AIH, the immune response triggers inflammation, potentially leading to cirrhosis if left untreated. The study aims to provide comprehensive insights into the relationship between AIH and pregnancy, guiding clinicians in optimal maternal management.

Methods: Our meta-analysis includes data searched up to January 1, 2024. Eligibility criteria encompassed studies focusing on pregnant individuals with AIH, excluding case reports, letters, reviews, and incomplete papers. Data extraction, quality assessment using Cochrane risk of bias or Newcastle-Ottawa Scale, and quantitative analysis through Comprehensive Meta-Analysis were performed.

Results: The literature search spanned 15 studies involving 38,679 pregnant women with AIH across 10 countries. Maternal outcomes, including disease flare (event rate = 0.228, 95% CI: 0.13-0.36, p=0.000) and maternal deaths, revealed significant associations. The gestational Diabetes incidence was higher in AIH patients (E= 0.091, 95% CI: 0.043-0.184, p = 0.001) with notable heterogeneity. Fetal outcomes showed significant associations with preterm births (E=0.190, 95% CI: 0.131–0.268, p = 0.000), fetal loss (E=0.142, 95% CI: 0.082-0.236, p=0.000), and congenital anomalies (E=0.041, 95% CI: 0.026-0.065, p = 0.000).

Conclusion: This systematic review contributes a comprehensive overview of the complex interplay between AIH and pregnancy, providing evidence for heightened risks and implications on maternal and fetal outcomes. Clinicians can leverage these findings for informed decision-making while the study enriches the broader field of autoimmune and reproductive health.

"Association between duration of diabetes and liver cirrhosis risk: A prospective study at aims hospital, Hyderabad, Pakistan"

Mustafa Burney, Fatima Nadeem, Umar Soomro, Sadik Memon, Usman Ghani, Ziauddin Jakhrani, Junaid Sandhano, Noman Dal

Abstract:

Background: Diabetes mellitus (DM) increases the risk of liver cirrhosis and hepatocellular carcinoma (HCC). This study aimed to assess the relationship between the duration of diabetes, FIB-4 score, and the risk of liver cirrhosis, stratified by gender, in a population visited Hepatology clinic of Asian Institute of Medical Sciences (AIMS).

Methods: This prospective study included 585 participants from AIMS Hospital, Hyderabad. The FIB-4 score was used to stratify liver fibrosis. The relationship between the duration of DM (<5 years and ≥5 years) and liver cirrhosis was analyzed using logistic regression, with odds ratios (OR) and 95% confidence intervals (CI). Age groups (<40 years, 40-60 years, >60 years) were also observed for severity of liver disease.

Results: Participants with DM duration ≥5 years 12.7% (n=26/206) showed a significantly higher number of cirrhosis compared to those with DM duration <5 years 8.8% (n=18/206) (OR = 4.742, 95% CI: 2.949-7.627, $p < 0.001$). FIB-4 (>3.26%) was a significant predictor of liver cirrhosis (p-0.001). Male participant 8.6% (n=51/585) were at a higher risk of developing cirrhosis (fib-4 >3.26) compared to females 5.2% (n=30/585) where as higher prevalence of cirrhosis was exhibited 7.1% in Male patients with >60 years age (n=4/56).

Conclusions: Longer diabetes duration (≥5 years), obesity and age >60 years are associated with an increased risk of liver cirrhosis, as indicated by elevated FIB-4 scores. Male gender further exacerbates this risk. These findings highlight the importance of early DM management and regular liver function monitoring to mitigate complications in high-risk populations.

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Association between Duration of Diabetes/Gender/Age>60 years vs.Fibrosis
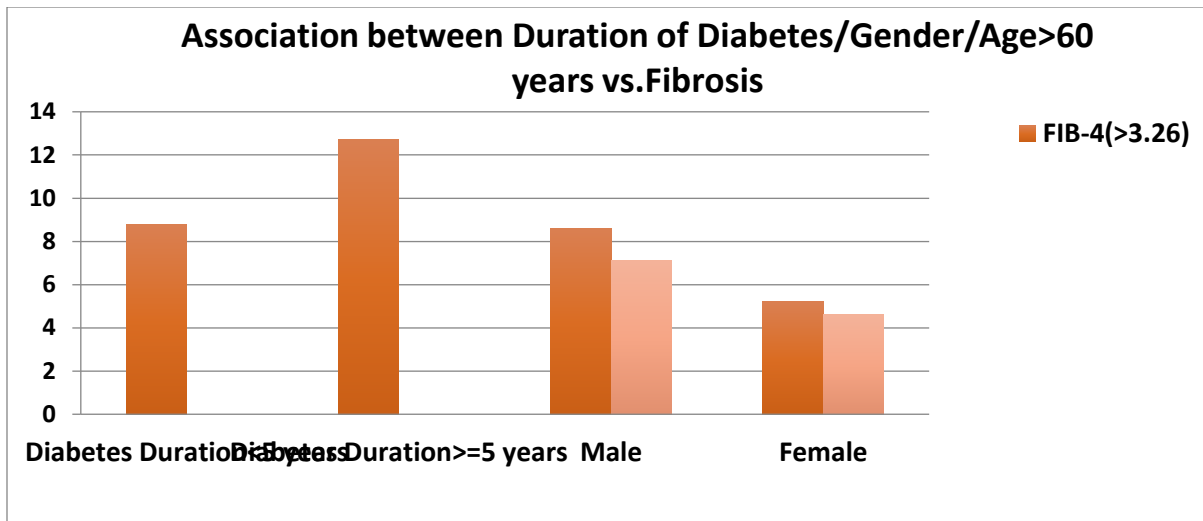
"Epidemiological audit of metabolic dysfunction-associated steatotic liver disease at aims hospital, Hyderabad"

Fatima Nadeem, Sadik Memon, Sahar Sultana, Rimsha Nisar, Shakir Keerio, Mustufa Burney, Usman Ghani, Haris Rathore

Abstract:

Background: Metabolic Dysfunction-associated Steatotic Liver Disease (MASLD) is a significant concern in Pakistan and rest of the world, with increasing rates of obesity, diabetes, and metabolic disorders. Early detection and management are crucial to prevent progression to severe liver conditions like cirrhosis and Hepatocellular carcinoma (HCC).

Aim: This one-year audit aims to assess the clinical profile, demographics, and progression of MASLD in out-patients at the Asian Institute of Medical Sciences (AIMS), Hyderabad, and identify key risk factors associated with the advance liver fibrosis and cirrhosis.

Methods: A prospective audit was conducted on 585 MASLD patients at AIMS. Data on demographics, co-morbidities, biochemical parameters and ultrasound findings were collected. Fib-4 was calculated based on ALT, AST & Platelets levels while, and liver fibrosis was assessed based on ultrasound imaging. IBM SPSS Version 22 was used for statistical analysis, and descriptive statistics were applied to analyze the data.

Results: The study included 585 patients with Metabolic Dysfunction-Associated Steatotic Liver Disease (MASLD) diagnosed on ultrasound liver. The cohort had an average age of 45 years, a BMI of 29.76 kg/m² and total cholesterol of 186 mg/dL. Interestingly enough, (408; 69.7%) patients were overweight or obese, 57.4% were male and 36.9% had diabetes. A significant association was found between duration DM and cirrhosis risk. Participants with DM duration ≥5 years (12.7%, n=26/206) had a higher incidence of cirrhosis than those with DM duration <5 years (8.8%, n=18/206), with and or of 4.742 (95% CI: 2.949-7.627, p <0.001). Every third patient had significant fibrosis (FIB-4 >1.3) in the cohort. These findings highlight the importance of early detection and management of MASLD in this high-risk population.
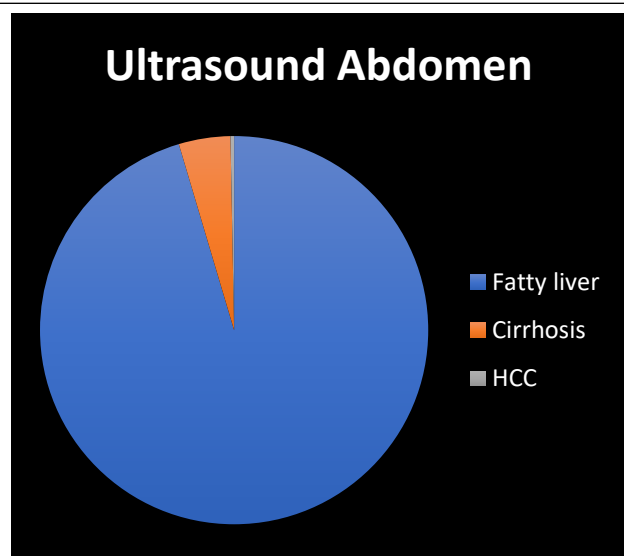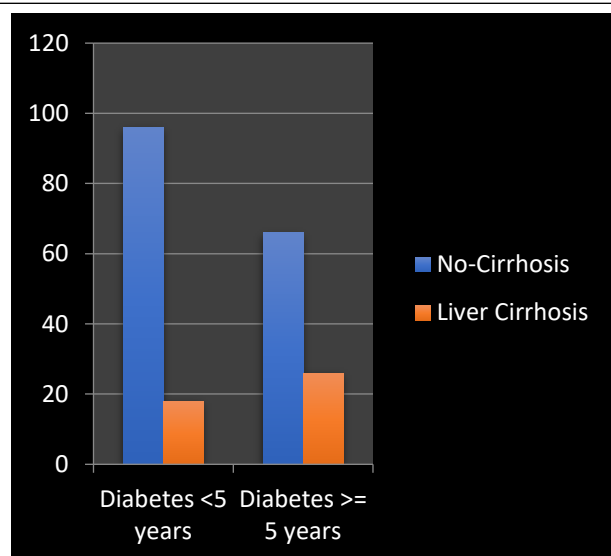
Conclusion: The audit highlights the high prevalence of MASLD, with notable associations to obesity and diabetes. Early-stage liver fibrosis was common, and intervention is necessary to prevent disease progression. Further studies are needed for long-term management strategies in this population.

Keywords: MASLD, obesity, diabetes, liver fibrosis, cirrhosis, fatty liver, Pakistan, IBM SPSS Version 22

"Complication of intrahepatic cholestasis of pregnancy and its association with bile acid levels Q A"

Shahid, R Ikram, M Sohaib, A Aftab, A Nawaz, R Azhar

Introduction: Intrahepatic cholestasis of pregnancy is most common pregnancy related disorder of liver, though does not cause any long-term damage to the mother but can lead to poor fetal outcome. Effects of ICP on maternal health is not fatal however, fetal complication are more severe, including low birth weight, intrauterine death (IUD), still birth, preterm labor, respiratory distress and meconium stained amniotic fluid. Based on literature data, a bile acid concentration of 10 µmol/L or greater indicates ICP in pregnancy. It was documented that an increased bile acid peak concentration in particular ≥40 µmol/L is associated with higher rates of adverse perinatal outcomes.

Objective: To determine the frequency of perinatal complications of intra-hepatic cholestasis of pregnancy and the association of perinatal complications of intra-hepatic cholestasis of pregnancy with serum bile acids level.

Methodology: A descriptive case series conducted at Fatima memorial Hospital from April 30th till Nov 30th enrolling 331 patients All pregnant patients with diagnosis of intrahepatic cholestasis of pregnancy and were evaluated for the outcome of pregnancy.

Results: out of 60 patients, 40 (67%) patients were multipara and 20 (33%) were obese. Mean age of the patients were 26.91±3.64 years. Complications observed in these patients were intrauterine death (5.1%), stillbirth (1.2%), preterm labor (44.4%), low birth weight (32.6%), neonatal respiratory distress syndrome (20.2), and meconium stained amniotic fluid (14.8). Most of the complication occurs in patients with bile acid levels were >40 µmol/L. Most of the patient had Cesarean section for the delivery (51.7%).

Conclusion: ICP has significant impact on the outcome of pregnancy, with higher levels of serum bile acid leads to poor outcome. Thus serum total bile acid levels should be monitored during the pregnancy.

Keywords: intrahepatic cholestasis, pregnancy, still birth, neonatal respiratory distress syndrome.

"Comparison of stent patency, biochemical and clinical improvement in plastic versus metallic biliary stent in malignant biliary obstruction"

Muhammad Uzair, Muhammad Mughees Ather, Hussain Tariq Chattha, Inam ul Haq, Eraj Mehdi

Abstract:

Objective: To compare stent patency, biochemical and clinical improvement partially covered self-expandable metal stent (SEMS) and plastic stent (PS) in patients treated for malignant biliary obstruction.

Methodology: This observational cohort study was conducted in Faisalabad Teaching hospital Faisalabad. A total 60 patients (30 in plastic and 30 in SEMS) with malignant biliary obstruction were included in study. The choice of stent between plastic and self-expandable metal stents (SEMS) and length of stent was left to experienced endoscopist. Biochemical tests of liver functions were obtained at the baseline; 7 days after metallic or plastic stent placement; and electively at 1, 3, and 6 months.

Results: There were 18 (60.0%) males and 12(40.0%) females in plastic group and 20 (66.7%) males and 10(33.3%) females in group SEMS. Mean age of the patients was57.87±7.90 years in plastic and 55.70±6.87years in SEMS group. Diagnosis of the patients showed that pancreatic cancer was most common in both groups (9(30.0%) in plastic and 10(33.3%) in group SEMS followed by gall bladder cancer, and Cholangiocarcinoma. Initial albumin level was < 3.5 g/dl in 24 (80.0%) in plastic and 25(83.3%) in SEMS group and ≥ 3.5 g/dl in 6(20.0%) patients of plastic and 5(16.7%). Stent Dysfunction was higher (19(63.3%) in plastic group as compared to SEMS group and there was a significant difference in two groups (0.021).

Conclusion: There is a difference between plastic and self-expandable metal stents (SEMS) had a longer duration of patency, biochemical and clinical improvement than plastic stents, which recommends their use in the palliative treatment of patients with biliary obstruction due to malignant biliary obstruction.

Keywords: Malignant Biliary Obstruction, stent patency, Plastic Stents (PS), self-expandable metal stents (SEMS)

"Des-gamma-carboxy prothrombin: A crucial biomarker for predicting aggressive hepatocellular carcinoma in patients with normal alpha-fetoprotein"

Darayus Gazder, Zaigham Abbas, Zeeshan Hyder, Muhammad Ali Qadeer, Aasia Sabeen, Shamim Nazir, Manesh Kumar

Dr. Ziauddin University Hospital Clifton Karachi

Abstract:

Background:. The patients with hepatocellular carcinoma (HCC) exceeding Milan criteria and those with portal vein tumor thrombosis are usually dropped from the transplant list due aggressive nature and risk of recurrence. Though high values of alpha-fetoprotein (AFP) predict the aggressive behavior of tumors, little is known about the tumor behavior when AFP is normal and Des-gamma-carboxy prothrombin (DCP), also known as a protein induced by vitamin K absence/antagonist-II (PIVKA-II) is elevated alone as this biomarker is still not included in most HCC guidelines. We evaluated the prognostic value of DCP in patients of HCC with normal AFP.

Methods: We retrospectively analyzed 101 HCC patients with normal AFP and known DCP values. Patients were divided into two groups based on whether they had aggressive behavior or not. For this study patients who exceeded Milan criteria and/or had portal vein tumor thrombosis were included in the aggressive tumor group. DCP levels were compared between the two groups. Receiver operating characteristic (ROC) curve analysis was performed to determine the optimal cut-off value of DCP for predicting HCC prognosis.

Results: This study included 67 males and 34 females. The mean age of the patients was 58.6 $\pm$ 11.7 years. Etiology of liver disease was hepatitis C in 46 (45.5%), hepatitis B in 25 (24.7%), fatty liver disease in 16 (15.8%), alcohol-related liver disease in 6 (5.9%), autoimmune liver disease in 4 (4.0%), hepatitis D 3 (3.0%) and cryptogenic in 2 (2.0%). Sixty-five (64.4%) patients had decompensated liver disease due to ascites or encephalopathy. Patients with aggressive tumors had significantly higher DCP levels (mean$\pm$ SEM) 7776 $\pm$1913 mAU/mL vs 534 $\pm$119, $p<0.001$. ROC curve analysis revealed AUROC of 0.723 with an optimal cut-off value of 400 mAU/mL for DCP with a sensitivity of 68%. 21 patients had elevated DCP levels of $\geq$ 4000 mAU/L. A level of 4000 mAU/mL had a maximum value of Youden's Index and a precision of 1.000.

Conclusion: PIVKA-II (DCP) levels $\geq$400 mAU/mL are associated with aggressive HCC in patients with normal AFP. Our findings suggest that DCP) may serve as a useful biomarker for risk stratification and treatment decision-making in HCC patients with normal AFP.

"Factors associated with hepatitis B surface antigen sero-clearance in hemodialysis patients"

Kiran Bajaj, Raja Taha Yaseen Khan, Ghazi Abrar, Nida Rasool, Hina ismail, Abbas Ali Tasneem, Syed Mudassir Laeeq,Zain Majid, Shoaib Ahmed Khan, Nishat Akbar, Nasir Hasan Luck

Sindh istitute of urology and transplantation Karachi

Abstract:

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. 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.

Methods: It was prospective observational study which was conducted at the department of Hepatogastroenterology, Sindh Institute of Urology and Transplantation. All the patients with HBsAg reactive 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. HBsAg was repeated yearly for the 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 < 1000IU/ml, HBV DNA levels <5000IU/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

"A rare etiology of Liver mass in a patient of chronic Hepatitis C"

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Abstract:

Follicular Dendritic Cell sarcoma (FDCS) of the liver is a rare clinical entity. It mostly presents in the lymph nodes; extra lymph nodal presentation is rare. We present the case of a 45-year-old male with a case of successfully treated chronic hepatitis C (CHC), who complained of pain in the right hypochondrium, abdominal distension, and weight loss for the last 2 months. Triphasic computed tomography (CT) abdominal scan showed a large irregular mass of approximately $17.7 \times 15.7 \times 15.9$ cm in the right lobe of the liver with thrombus in the Portal vein, splenomegaly and mild abdominal ascites representing atypical Hepatoma. A liver biopsy performed revealed FDCS. The patient started on Gemcitabine and Doxorubicin. After completion of chemotherapy, the patient died of myocardial infarction.

Keywords: Follicular dendritic cell sarcoma, Chronic hepatitis C, Atypical hepatoma.

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"Outcome of Acute Liver Failure in Pregnancy: Experience from Karachi, Paskitan"

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Abstract:

Introduction: Acute liver failure (ALF) is a rare but intense clinical set of symptoms, characterized by abrupt and immense liver necrosis of a previously healthy liver parenchyma, resulting in jaundice, coagulopathy (INR>1.5), and hepatic encephalopathy. ALF in pregnancy is a serious condition with adverse maternal and fetal outcomes. Objective: To determine the outcome of ALF in Pregnancy.

Study Significance: This study will provide the outcome of ALF in Pregnancy. Method: This was a prospective cohort study conducted at the Gastroenterology department of JPMC, Karachi, from July 2019 to December 2024. All pregnant females with deranged LFTS and liver failure according to King's College criteria were included in the study. The data obtained was analyzed using the statistical software SPSS version 23. Frequencies and percentages were obtained for descriptive statistics.

Result: We admitted 209 patients with ALF, out of them 72 pregnant female patients were included in the study. The mean age of patients was 27.56±5 years. Around 66(91.7%) patients presented in 3rd trimester of pregnancy at 33.15±5.36 weeks of gestational age. The majority have no known co-morbid condition. Hepatitis E virus was the most common etiology of ALF, positive in 58(80.6%), followed by Hepatitis A virus in 2(2.8%) and remaining have others. Most of the patients 37(51.4%) were at grade III encephalopathy. The majority of them 45(62.5%) had required ICU care. Pregnant females admitted with ALF had high mortality rates 36(50%).

Conclusion: ALF in pregnancy is a fatal condition. Early recognition and optimum management can prevent adverse fetal and maternal complications.

"Frequency of Stone (Choledocholithiasis) and Ca head of Pancrease in Patients with Obstructive Jaundice"

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Abstract:

Objective: To determine the frequency of stone(choledocholithiasis)and Ca head of pancreas in patients with obstructive jaundice,

Study Design: Cross sectional study

Study Settings: Department of gastroenterology, Hayatabad Medical Complex Peshawar.

Study Duration: From 27" July 2020 to 28 January 2021

Materials and Methods: A total of 111 patients presenting with obstructive jaundice were included in the study through consecutive sampling and subjected to ultrasound and CT to detect choledocholithiasis and Ca head of pancreas.

Results: The mean age of our sample was 46.7 years with a standard deviation of 8.0 years.43.2% males and 56.8% females. The mean BMI was 23.6+2.9kg/m3. The mean duration of obstructive jaundice was 5.8+2.1 days. On investigations, Choledocholithiasis was recorded in 52.3% and Ca Head of Pancreas in 19.8%.

Conclusion: Gallstones is a common cause of obstructive jaundice in our population followed by Ca head of pancreas. More advanced diagnostic tools must be validated to capture these causes well in time before complicationsdevelop. More studies shoud be conducted on relatively larger sample size todetermine the exact burden of other causes of obstructive jaundice.

"Hopeless first presentation of hepatocellular carcinoma in south asian population"

Usman Ghani, Sadik memon, Fatima Nadeem, U soomro, M Zaki, Faiza Bibi, Mustafa Burney, Haris Rathore, Noman Dal

Abstarct:

Background and Aim: Hepatocellular carcinoma (HCC) is a primary malignancy of the liver and a leading cause of cancer-related deaths worldwide. The Barcelona Clinic Liver Cancer (BCLC) staging system is widely used to classify HCC into different stages, guiding treatment decisions and predicting prognosis. The aim of this study is to determine BCLC staging distribution at first presentation in HCC patients.

Methods: This prospective cohort study was conducted between 2022 and 2024 at AIMS Hospital Hyderabad. BCLC staging was assessed at the first presentation. Chi-square tests compared BCLC staging with age groups and mean alpha-fetoprotein (AFP) levels. Univariate analysis and likelihood ratio test was applied to identify mean alfa feto protein association with advanced BCLC staging. Statistical significance was set at $p < 0.05$. Data analysis was performed using IBM SPSS version 22.

Results: Among 286 patients, 79.4% (n = 227) were male, and 68.5% (n = 196) had HCV etiology. Almost 2/3 of patients (67.8% n=192/286) were staged BCLC C&D. Multinodular HCC (64.3%) was significantly associated with advanced stages (70.7%, p = <0.001), Mean Alfa Feto Protein (>589.6ng/ml) (42.3%) also represented significant association with advanced stages (47.6%, p=0.003) whereas, the likelihood ratio test showed a significant effect of AFP mean levels (χ^2 = 18.203, p = 0.004). Parameter estimates indicated that AFP levels significantly increased the likelihood of advanced staging (Exp (B) = 2.312, 95% CI [1.316, 4.062], p = 0.004).Diabetes was also prevalent in advanced stages of Hepatocellular Carcinoma (25.5%, p=0.653). Majority of the patient's age group was 40-60 years. as shown in Chart-1.
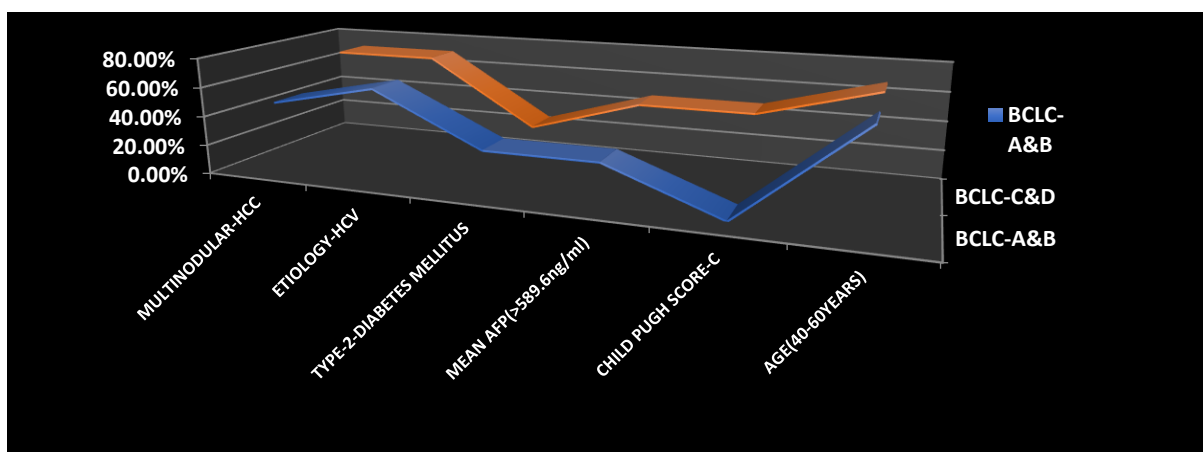
Chart-1: Variables vs. BCLC Staging

Conclusion: The findings suggest that HCV-etiology, multinodular HCC & elevated alpha-fetoprotein levels are significantly associated with advanced BCLC staging. These results emphasize the importance of early detection and staging in the management of HCC, and may inform clinical decision-making and treatment strategies.

Keywords: Hepatocellular Carcinoma (HCC), Barcelona Clinic Liver Cancer (BCLC), Alfa Feto Protein (AFP),AIMS Hospital

"Eepidemiological and clinical profile of acute pancreatitis: A prospective audit"

Umar Soomro, Sadik memon, Fatima Nadeem, Faiza Bibi, M Zaki, Mustufa Burney, Usman Ghani, Noman Dal

Abstract:

Background: Acute pancreatitis is a complex and potentially life-threatening condition. This audit aims to investigate the causes, demographics, comorbidities, and outcomes of patients with acute pancreatitis at AIMS Hospital Hyderabad.

Methods: A prospective audit of year 2024, related to 143 acute pancreatitis patients was conducted. The paired samples t-test was used to compare the initial and 48-hour BISAP scores, with data analysis performed using IBM SPSS version 22with statistical significance set at $p < 0.05$.

Results: Gallstones were identified as the most common cause of Acute Pancreatitis (91/143; 63.6%), while 38 patients (26.6%) had idiopathic pancreatitis. Notably, 45.4% (20/38) of patients with idiopathic pancreatitis were obese, suggesting a possible association requiring further investigation. The majority of cases (74/143; 51.7%) occurred in patients under 40 years of age, with BMI distribution being relatively balanced across categories. Hypertension (28/143; 19.6%) and diabetes mellitus (20/143; 14%) were the most prevalent comorbidities. Endoscopic retrograde cholangio pancreatography (ERCP) was performed in 35 of 51 eligible patients (24.5%), with CBD stones detected in 17 cases (11.9%). BISAP scores demonstrated significant improvement after 48 hours, with a mean reduction of 0. 63 ($p = 0.029$), indicating early clinical response to treatment.

Conclusion: This study highlights gallstones as the predominant cause of Acute Pancreatitis, emphasizing the need for early diagnosis and timely ERCP intervention. The findings also reinforce the role of BISAP scoring in predicting disease severity and guiding patient management. Further prospective studies are warranted to explore the association between obesity and idiopathic AP and to optimize treatment strategies for high-risk patients.

Causes of Acute Pancreatitis
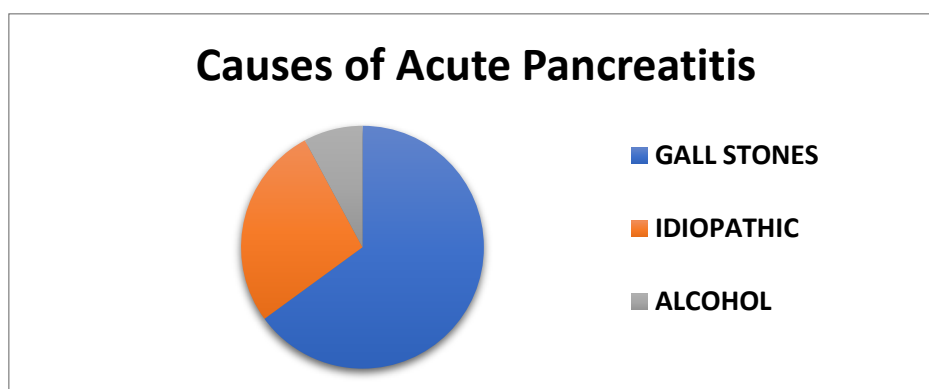
Key words: Acute Pancreatitis (AP), Endoscopic retrograde cholangio pancreatography (ERCP), BISAP, Body Mass Index (BMI)

"IgG4-related retroperitoneal fibrosis presenting as a peripancreatic mass: a case series"

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Mah Rukh[2]

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3. Khyber Girls Medical College, Peshawar, Pakistan

Abstract:

Introduction: IgG4-related disease (IgG4-RD) is a chronic, immune-mediated disorder characterized by widespread inflammation and fibrosis, leading to potential organ dysfunction if untreated. Often underdiagnosed due to subtle and varied symptoms, the disease can affect multiple organ systems. This case series highlights two patients who were diagnosed as cases of IgG4-related retroperitoneal fibrosis.

Methods: A total of two patients were included in this prospective case series who presented to the gastroenterology department of a tertiary care hospital with the same signs and symptoms and were diagnosed with IgG4-related retroperitoneal fibrosis (IgG4-RPF).

Case summary: Two patients were included in our case series, aged 25 and 26 years. The chief complaints included dull, radiating epigastric pain, other symptoms include diffuse abdominal pain, intensified, accompanied by nausea, vomiting, and episodic diarrhea, and a history of B-cell lymphoproliferative disorder. Endoscopic ultrasound (EUS)-)-guided biopsies were performed, showing findings consistent with (IgG4-RPF). Both patients were started on a regimen of prednisolone, pantoprazole, and vitamin D, which they tolerated well without adverse effects. They were advised to follow up with a CT scan after one month

Conclusion: IgG4-related disease (IgG4-RD) is a rare, chronic condition often presenting as retroperitoneal fibrosis (RPF) and affecting multiple organs. Serum IgG4 levels can be normal in certain cases, histopathological and radiological investigations are necessary for the correct diagnosis. Early initiation of immunosuppressive drugs are necessary for the disease control.

"Machine learning prognostic models compared with the MELD and MELD-Na scores for prediction of 90-day mortality in liver diseases"

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2. Department of Medicine, Nishtar Medical University

Abstract:

Introduction: The Model for End-Stage Liver Disease (MELD) score has been widely used as a tool to assess mortality and for liver transplant listing. Several variants of the MELD score have been adopted, including the Model for End-Stage Liver Disease-Sodium (MELD-Na) and MELD 3.0. Machine learning (ML) models are expected to perform better than conventional prognostic scores due to their superior ability to process nonlinear interactions. This systematic review and meta-analysis aims to compare ML models with the MELD and MELD-Na scores for prediction of 90-day mortality in patients with liver diseases.

Methods: We conducted a comprehensive search of various databases from their inception to December, 2024. We included studies with a head-to-head comparison of MELD or MELD-Na with at least one ML model for the prognosis of patients with liver diseases. The primary outcomes were comparison of the best performing ML model with MELD and MELD-Na in its ability to successfully predict mortality at 90 days. The comparison was done using the ratio of means (ROM) of the area under the receiver operating characteristic (AUROC). A random effect meta-analysis was performed using RevMan 5.4.

Results: Eight full-text retrospective studies with 480,615 patients were included. The patient population included patients with end-stage liver disease, decompensated cirrhosis, acute-on-chronic liver failure, and alcoholic hepatitis. A total of 34 unique models were used in the included studies. Most commonly employed ML models were Random Forest, Gradient Boosting Machine and Artificial Neural Network (Table). The AUROC for 90-day mortality ranged from 0.599-0.860 for MELD, 0.563-0.860 for MELD-Na, and 0.765-0.960 for ML models. ML models significantly outperformed both MELD and MELD-Na for the prediction of mortality at 90 days with ROM for ML models versus MELD 1.104 (95% CI: 1.066–1.143), I2: 51%, P<0.01 and ROM for ML models versus MELD-Na 1.089 (95% CI: 1.038–1.143, I2:99%, P<0.01) (Figure).

Conclusion: ML models seem to have better performance predicting 90-day mortality as compared to both MELD and MELD-Na scores. However, studies have focused on multiple ML models and tested with different populations leading to high heterogeneity. Future research should focus on developing a single ML model that could be implemented in electronic health records.

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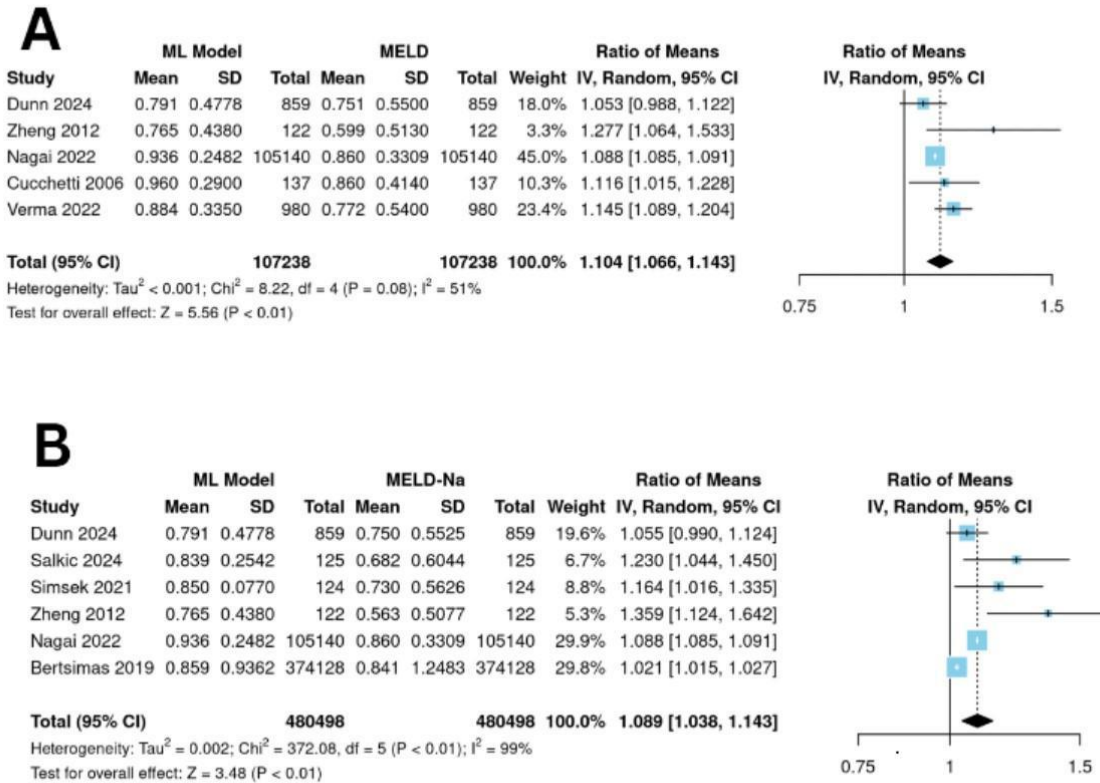
Figure: (A) Forest plot of ROM of AUROC of ML Model vs MELD (B) Forest plot of ROM of AUROC of ML Model vs MELD-Na

Study	ML Model	ML AUROC	MELD AUROC	MELD-Na AUROC
Dunn 2024	Ensemble	0.791	0.751	0.75
Zheng 2012	ANN	0.765	0.599	0.563
Nagai 2022	NN	0.936	0.86	0.86
Cucchetti 2006	ANN	0.96	0.86	
Verma 2022	XGB-CV	0.884	0.772	
Bertsimas 2019	OPOM	0.859		0.841
Salkic 2024	ANN	0.839		0.682
Simsek 2021	LightGBM	0.85		0.73

Table: ML models used for comparison along with AUROC values used in the included studies. ML = machine learning, AUROC = area under receiver operating curve, MELD = model for end stage liver diseases, ANN = artificial neural network, NN = neural network, XGB = X gradient boosting, Light GBM = light gradient boosting model, OPOM = optimized prediction of mortality

"Outcomes of Pregnancy in Patients with Chronic Liver Disease"

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Abstract:

Background and objectives: Chronic liver disease (CLD), due to its increased prevalence, is a global public health concern. With improved care of CLD patients nowadays, more patients with liver cirrhosis or CLD are getting pregnant. Pregnancy in the setting of CLD is associated with significant maternal and fetal complications. The objectives of this study were to determine the outcomes of pregnancy in patients with CLD and to ascertain the association between maternal CLD and pregnancy outcomes.

Materials and methods: This retrospective study was conducted at the Gastroenterology Department of Hayatabad Medical Complex, Peshawar, after approval from the hospital's ethical committee. A total of 91 pregnant patients with CLD were included. Data of these patients were retrieved from the hospital information management system. Baseline parameters and clinical parameters of the study participants were recorded. Maternal outcomes and fetal outcomes were noted. Data was analyzed using IBM SPSS Statistics for Windows, Version 25(Released 2017; IBM Corp., Armonk, New York, United States). Inferential statistics, including univariate logistic regression analysis, was used to determine various factors influencing the fetomaternal outcomes. p-value ≤0.05 was considered statistically significant.

Results: The mean age of patients was 30.85±6.20 years, the mean gestational age was 29.66±4.15 weeks, and the mean CLD duration was 27.65±9.481 months. Viral hepatitis was the most frequent etiology of CLD (62.6%). Fifty-four patients (59.3%) were noted to have used fertility medications. Regarding maternal outcomes, 13 (14.3%) patients had preterm labor, 47 patients (51.6%) had a cesarean section as a mode of delivery, and post-partum hemorrhage (PPH) was observed in 13 (14.3%) patients. In terms of fetal outcomes, low birth weight was observed in 29 (31.9%) babies, intrauterine death (IUD) was noted in 13 (14.3%) babies and 27 babies (29.7%) had low Apgar scores at birth. The CLD duration was significantly associated with the mode of delivery (p<0.001). Similarly, maternal age (p=0.049), body mass index (p=0.017), and decompensated CLD (p=0.030) were associated with a high likelihood of IUD. Maternal age was associated with the likelihood of a low Apgar score (p=0.013).

Conclusion: Pregnancy in patients with CLD is associated with an increased risk of maternal complications (preterm labor and PPH) and fetal complications (IUD, low birth weight, and low Apgar score). Maternal age, body mass index, and decompensated CLD are associated with an increased likelihood of IUD.

"Unusual foreign body impaction in pancreatic duct: a novel case of trapezoid basket removal via argon plasma coagulation"

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Asma Yaseen, Muhammad Asim

Sindh Institute of Advanced Endoscopy and Gastroenterology (SIAG)

Abstract:

Foreign body impaction has been frequently seen in esophagus, stomach, duodenum and rectum. Multiple cases of iatrogenic foreign body i.e. stone extraction basket impaction in common bile duct has been observed and treated well, however this has not been seen in pancreatic duct. At our endoscopy suite, a rare case of trapezoid basket impaction in pancreatic duct was managed endoscopically. 56 years old man underwent endoscopic retrograde pancreatography (ERP) due to pancreatic duct stones as a result of chronic pancreatitis, pancreatic sphincterotomy was performed and plastic pancreatic stent was placed. Repeat ERP was performed for extraction of pancreatic duct stones with mechanical lithotripter via trapezoid basket, while retrieving the pancreatic stones, the leading wire of mechanical lithotripter fractured and basket was impacted within the pancreatic duct. Conventional maneuvers of lithotripter basket retrieval were in vain. Argon plasma coagulation (APC) was used to ablate the wires of basket, followed by removal of basket from the pancreatic duct. Single pigtail plastic pancreatic stent was placed, post procedure patient remained stable, Patient was further managed with ESWL for pancreatic stones. Post ESWL, ERP was performed again and PD stones were removed successfully. APC has been used multiple times for removal of metal stents and metal baskets removal from biliary duct, however its use in pancreatic duct for removal of basket has been rarely used.

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"Risk Factors for Acute Hepatitis Induced by Anti-Tuberculosis medications in the Kashmiri population"

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Abstract:

Background: Tuberculosis (TB) remains a major health issue in Kashmir, with many patients requiring treatment with anti-TB medications. While these drugs are effective for treating TB, they can also lead to liver complications, including acute hepatitis. Acute hepatitis due to anti-TB medicines is a well-recognized but often underreported issue. This study aims to identify the risk factors that contribute to the development of acute hepatitis in TB patients receiving treatment in Kashmir. Understanding these factors is crucial for improving patient care and minimizing liver damage.

Methods: We conducted a retrospective cohort study at Divisional Headquarters Teaching Hospital, Mirpur in Kashmir from feb 2022-jun 2023. The study included patients diagnosed with TB who began the standard anti-TB regimen (rifampicin, isoniazid, pyrazinamide, and ethambutol). We reviewed patient records to identify those who developed acute hepatitis, characterized by a significant rise in liver enzymes or noticeable jaundice during treatment. We gathered data on potential risk factors, such as age, gender, pre-existing liver conditions, other medications, nutritional status, and lifestyle factors (e.g., alcohol consumption). A statistical analysis was then performed to identify which factors were most strongly linked to the development of acute hepatitis.

Results: A total of 200 TB patients undergoing anti-TB therapy were included in the study. Of these, 18% developed acute hepatitis during treatment. The risk of developing hepatitis was higher in patients who were older ($\geq$50 years), male, had existing liver problems, or had a history of alcohol use. Specifically, 30% of patients aged 50 and older experienced acute hepatitis, compared to just 12% in patients younger than 50 years (p=0.02). Those with a history of liver disease were at a significantly higher risk, with 40% developing acute hepatitis, compared to just 12% in those without prior liver conditions (p=0.01). Alcohol consumption also played a role: 25% of patients who consumed alcohol developed acute hepatitis, while only 14% of non-drinkers were affected (p=0.03). Multivariate analysis confirmed that being over 50 years old (OR=2.5, 95% CI: 1.4–4.5), having a history of liver disease (OR=3.1, 95% CI: 1.8–5.5), and alcohol use (OR=1.9, 95% CI: 1.1–3.2) were independently linked to an increased risk of acute hepatitis.

Conclusion: Acute hepatitis is a significant concern for patients undergoing anti-TB treatment in Kashmir, particularly among those who are older, have pre-existing liver conditions, or drink alcohol. These findings emphasize the need for careful monitoring of liver function in high-risk patients. Early detection and intervention can help prevent serious liver damage and improve patient outcome.

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"Case Report: Post-TACE Hepatocellular Carcinoma (HCC) on CT Scan"

Ghazala Waheed

Abstract:

Introduction: Transarterial chemoembolization (TACE) is a minimally invasive, image-guided procedure commonly used in the management of hepatocellular carcinoma (HCC), particularly for patients who are not candidates for curative treatments such as surgery or ablation. This report describes the imaging findings of a post-TACE HCC case on CT scan, highlighting key features and considerations for interpretation.

Patient History: A 65-year-old male with a known history of chronic hepatitis B and cirrhosis presented with abdominal discomfort and weight loss. Contrast-enhanced CT of the abdomen revealed a hypervascular lesion in the right hepatic lobe consistent with HCC. The patient underwent TACE for local disease control.

Procedure Overview: The TACE procedure involved selective catheterization of the hepatic artery supplying the tumor, followed by administration of a chemotherapeutic agent mixed with an embolic agent (lipiodol). The goal was to achieve tumor ischemia and localized chemotherapy delivery.

Post-TACE Imaging Findings on CT scan: Post-TACE imaging was performed immediately showed lipiodol deposition in the lesion. Another CT scan performed 4 weeks after the procedure using a multiphase contrast-enhanced CT scan. The findings included:

1. **Tumor Appearance:**
   o The treated lesion in the right hepatic lobe demonstrated a mixture of hypoattenuating and hyperattenuating areas due to necrosis and retained lipiodol, respectively.
   o A nodular arterial enhancement was noted, suggesting residual viable tumor tissue.
2. **Lipiodol Deposition:**
   o Dense radiopaque material (lipiodol) was seen within the treated lesion.
3. **Necrosis:**
   o small portion of the lesion were hypoattenuating, consistent with coagulative necrosis induced by TACE.
4. **Surrounding Liver Parenchyma:**
   o The non-tumorous liver demonstrated features of cirrhosis, including surface nodularity and volume. No new lesions or evidence of distant metastasis were identified.
5. **Complications:**
   o No evidence of biliary injury, abscess formation, or hepatic infarction was noted.
   o Mild perihepatic fluid was present, likely secondary to post-procedural inflammation.

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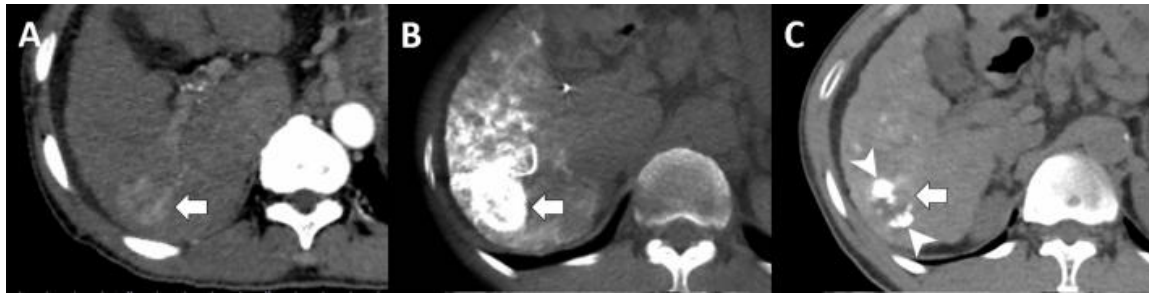
A. Enhanced computed tomography revealed a hypervascular nodule located in segment 6 of the right hepatic lobe.

B. CT done immediately post-TACE displays dense iodized oil deposition within the tumor.

C. Enhanced CT scan done one-month post-TACE shows limited retention of Lipiodol in the tumor, indicative of a deficient Lipiodol accumulation pattern. Nodular enhancement was also seen, consistent with the recurrent tumor.

Discussion: Post-TACE imaging plays a crucial role in assessing the treatment response and detecting complications. CT findings such as lipiodol deposition and tumor necrosis are indicative of treatment efficacy. However, persistent arterial enhancement within the lesion raises concern for residual viable tumor, warranting close follow-up or consideration for repeat therapy.

The Liver Imaging Reporting and Data System (LI-RADS) treatment response algorithm can be utilized to standardize the assessment of treated HCC. In this case, the presence of residual arterial enhancement suggests a "viable" tumor according to LI-RADS criteria.

Conclusion: This case highlights the importance of post-TACE CT imaging in evaluating treatment response and detecting complications. Radiologists must be familiar with the typical post-procedural findings, including lipiodol deposition and necrosis, as well as signs of residual tumor. Multidisciplinary collaboration is essential for optimizing patient outcomes in HCC management.

Key Points:

- Post-TACE imaging findings include lipiodol deposition, necrosis, and assessment of residual enhancement.
- Persistent arterial enhancement may indicate residual viable tumor.
- Familiarity with LI-RADS treatment response criteria aids in standardized evaluation.
- Early detection of complications is critical for timely management.

References:

1. Llovet JM, Kelley RK, Villanueva A, et al. Hepatocellular carcinoma. Nat Rev Dis Primers. 2021;7(1):6. doi:10.1038/s41572-020-00240-3
2. Sieghart W, Hucke F, Pinter M, et al. The ART of decision making: Retreatment with TACE in patients with hepatocellular carcinoma. Hepatology. 2019;69(2):921-932. doi:10.1002/hep.30245

3. Kim YK, Kim CS, Song SY, et al. Role of CT imaging in evaluating response to TACE in hepatocellular carcinoma: Emphasis on LI-RADS v2018 treatment response algorithm. Radiographics. 2020;40(4):1142-1161. doi:10.1148/rg.2020190203
4. Kulik L, El-Serag HB. Epidemiology and management of hepatocellular carcinoma. Gastroenterology. 2022;162(7):1939-1956. doi: 10.1053/j.gastro.2021.12.038

"Mean platelet volume (MPV) as marker of Hepatocellular Carcinoma"

R Azhar, R Ikram, M Sohaib, A Aftab, A Nawaz, Q A Shahid

Abstract:

Introduction: Mean Platelet Volume (MPV), a simple and inexpensive parameter that reflects platelet size and function, has gained attention as a potential marker for various diseases, including cancers. Several studies suggest that changes in platelet size may be linked to cancer progression, as platelets are involved in the formation of a pro-thrombotic environment conducive to tumor growth and metastasis. Given that MPV is an easily obtainable, low-cost marker, its potential utility in the early detection and monitoring of HCC could be significant, particularly in resource-limited settings where advanced diagnostic methods may not be readily available.

Objective: To evaluate the role of Mean Platelet Volume (MPV) as a diagnostic and prognostic biomarker in patients with Hepatocellular Carcinoma (HCC) by comparing MPV levels in HCC patients, individuals with chronic liver disease, and healthy controls.

Materials and Methods: A cross-sectional study was conducted involving 90 participants divided into three groups recruited through simple random sampling from Fatima Memorial Hospital Lahore from June 2023 to Jan 2024. Group A comprised 30 subjects with no underlying liver disease, a second group labeled as B of 30 participants who had liver cirrhosis, without any evidence of HCC. A third group labeled C of 30 subjects with HCC. MPV levels were measured using automated hematology analyzers, and HCC diagnosis was confirmed through imaging techniques. Patients with other malignancies or systemic diseases such as Diabetes, Hypertension, Autoimmune disorders or Alcoholics and pregnant women were excluded.

Results: In group A we had 14 male participants and 16 female participants, while in group B there were 12 males and 18 female subjects, among the HCC group male to female ratio was 17/13.

Our results revealed that MPV was significantly higher in the HCC group (12.16 ± 0.848, $p = < 0.01$) compared to the Cirrhosis or Group B (9.94 ± 0.844) and Normal or Group A (9.70 ± 1.89). There was no significant difference between Normal and Cirrhosis groups ($p = .754$).

Conclusion: Our findings indicate that mean platelet volume may serve as a potential biomarker for hepatocellular carcinoma. Further large-scale prospective studies are warranted to validate these results and elucidate the underlying mechanisms linking MPV to HCC development and progression.

Keywords: Mean platelet volume, Hepatocellular carcinoma, Cirrhosis, prognosis

"Acute Liver Failure in Early Infancy. Clinical presentation, etiological spectrum and outcome"

Hazrat Bilal, Huma Arshad Cheema, Ameer Muhammad, Irshad

Abstract:

Aim: To know about the important clinical presentation, laboratory profile helpful in diagnosing the treatable causes of ALF which will lead to decrease in the high mortality.

Introduction: Acute liver failure of early infancy is hepatic base coagulopathy associated with very high mortality and morbidity. Its quite different from older children and adult ALF in clinical presentation and etiology the most common cause is gestational alloimmune disease followed by metabolic, infective, infiltrative, hypoxic/ischemic and idiopathic causes. Clinically it usually presents with jaundice, lethargy, poor feeding, ascites,hypoglycemia and deranged liver functions.

Method: Descriptive study conducted over a period of 3 years. Patients who presented with ALF in the first 120 days of life were enrolled. Data is collected on the basis of important clinical features, etiology and outcome.

Results: A total of 52 infants were included in this study who fulfilled the ALF Criterion. The most common cause was gestational alloimmune liver disease (24.6%) followed by galactosemia (19.3%), idiopathic (13.1%), infectious (98.2%) and hemophagocytic lymphohistiocytosis (4.9%). The over all survival at discharge was 65.4%. Conclusion. ALF should always be considered in any young infants who presents with coagulopathy even in absence of jaundice. Timely supportive care and specific treatment of the treatable causes may have contributed to the better outcome as compared to previous studies.

Keywords: Acute liver failure, gestational alluimmune liver disease, galactosemia, early infancy

"Timing of Laproscopic cholecystectomy after endoscopic retrograde cholangiopancreatography for common bile duct stones: a prospective study"

Muhammad Kamran Hassan, Ahmad Nawaz Babar, Mujahid Aslam

MTI, LRH, Peshawar

Abstract:

Background: Incidence of cholelithiasis and choledocholithiasis is on a rise, both coexisting in 15-20% patients. The current standard of treatment for Common bile duct stones is endoscopic removal of the stones. The biliary sphincterotomy by Endoscopic retrograde cholangiopancreatography (ERCP) is widely used as the procedure of choice for patients with common bile duct stones. Stone extraction is successful in up to 97% of patients. After removal of bile duct stones by ERCP, cholecystectomy is needed in patients with concomitant gallstones because studies have shown that further biliary complications occur in >24% in those patients who were not undergoing cholecystectomy.

Aim: The aim of this study is to compare different intervals of cholecystectomy after ERCP. To compare whether time interval between ERCP and cholecystectomy has any advantage in terms of less number of repeat ERCP needed, operative time, rate of complication and duration of hospital stays.

Methodology: This is a prospective study on patients who were presented with concomitant Gall Bladder and CBD stones to be managed in Gastroenterology Unit, LRH MTI, Peshawar. Patients of both genders and all age were enrolled who underwent uneventful ERCP for CBD stones. Patient not fit for surgery, pregnant patients, patients with severe malnutrition, having history of cholecystectomy, liver cirrhosis, in whom endoscopic management of CBD stones failed, patients requiring mechanical lithotripsy or stent, patients who experienced pancreatitis or perforation as a complication of ERCP were excluded from the study population. Patient were grouped into four categories. Group A having Cholecystectomy within 72 hrs of ERCP, Group B having Cholecystectomy within 4 weeks of ERCP and Group C having Cholecystectomy after 4 weeks of ERCP.

Results:

Between March 2023 and December 2024, 190 patients who underwent ERCP and subsequent laparoscopic or open cholecystectomy were evaluated. Among these 20 patients were excluded based upon the exclusion criteria of the study. Remaining 170 patients who met the inclusion criteria were analyzed. Median age of the study population was 58.46 ± 17.86 years, Female were 110 (64.70%) and male were 60 (35.29%). Biliary presentation of the patients was as follows; Acute cholecystitis 90 (52.94%), Acute cholangitis 45 (26.47%) and Acute pancreatitis 35 (20.5%).

Group distribution of the study population; Group A 32 (18.52%), Group B 90 (52.94%) and Group C 48 (28.23%). Among the study population, 7 patients underwent open cholecystectomy, 5 due to previous abdominal surgeries and 2 due to presence of CBD stone unable to retrieve during ERCP, 163 patients underwent Laparoscopic cholecystectomy.

Variables comparison among study Groups

		Group A 32 (18.52 %)	Group B 90 (52.94%)	Group C 48 (28.23%)	P value
Complications	Present	0	5 (5.55%)	3 (6.25%)	0.023
	Absent	32 (100%)	85 (94.44%)	45 (93.75%)	
Re ERCP		0	11 (12.22%)	18 (37.5%)	0.096
Operative time (Mins)		38.14±8.52	43.23±18.14	36.23±12.23	0.074
Hospital Stay (days)		7.65±3.29	15.10±4.23	13.63±5.43	<0.001

Conclusion:

The findings of this study suggested that early cholecystectomy is safe and feasible in patients undergoing ERCP for choledocholithiasis. Performing early cholecystectomy after ERCP does not increase perioperative morbidity, lesser hospital stays and can help prevent recurrent biliary events.

"Comparison of Foetal and Maternal Outcomes of Hepatitis E in Pregnant vs Non-Pregnant Women"

Majid Ahmed Shaikh,[1] Erum Majid Shaikh,[2] Faiza Sadaqat Ali,[1] Takasur Bibi,[2] Bader Faiyaz Zuberi[3]

1. Dow Medical College, Dow University of Health Sciences, Karachi, Pakistan.

2. Jinnah Postgraduate Medical Centre, Karachi, Pakistan.

3. OMI Hospital, Karachi, Pakistan

Abstract:

Objective: To determine foetal and maternal outcomes of hepatitis E in pregnant women and to compare them with non-pregnant women.

Methodology: This prospective observational cohort was done at Department of Obst/Gyn Jinnah Postgraduate Medical Center & Hepatology Clinic Dr Ruth KM Pfau Civil Hospital Karachi during the period 7th February 2023 till 6th January 2025. All pregnant women presenting with jaundice were included in Group-A. At the same time non-pregnant women presenting with hepatitis were inducted in Group-B as controls. Both groups were further segregated on basis of HEV presence as Group-Ae & Group-Be and as non-HEV as Group-Ane & Group-Bne respectively.

Results: At total of 190 patients were inducted equally distributed in two groups of 95 each. The frequency of diabetes & hypertension was relatively similar across all groups. There was no significant difference in frequency of maternal outcomes, (p <.05). Group-Ae had 22 alive healthy cases (37.93%), 7 IUGR cases (12.07%), 18 stillbirths (31.03%), and 11 abortions (18.97%). Group-Ane had 25 alive healthy cases (67.57%), 2 IUGR cases (5.41%), 8 stillbirths (21.62%), and 2 abortions. Statistically significant poor outcomes were present in Group-Ae as compared to Group-Ane, (p = .032).

Conclusion: Study highlights the significant impact of Hepatitis E on foetal outcomes in pregnant women, with a higher rate of adverse outcomes compared HEV negative pregnant women.

"Comparison of clinical outcomes between patients who received aggressive fluid resuscitation versus moderate fluid resuscitation for acute pancreatitis"

Asif Khan, Sher Rehman, Imran Ullah, Fazal Wahab, Rafiullah, Syed M Abuzar

Abstract:

Introduction: Acute pancreatitis is an inflammatory disease of the pancreas diagnosed by characteristic abdominal pain, elevated pancreatic enzymes, and confirmatory imaging. While early aggressive fluid resuscitation is traditionally recommended, emerging evidence questions its safety compared with a more moderate approach.

Objective: To compare the clinical outcomes – specifically the incidence of complications – between patients managed with aggressive versus moderate (Waterfall criteria) fluid resuscitation for acute pancreatitis.

Materials & Methods: A retrospective observational study was conducted at Hayatabad Medical Complex, Peshawar, from September 2022 to May 2023. Fifty-three patients with acute pancreatitis were categorized based on fluid resuscitation protocol (aggressive vs. moderate). Data on demographics, etiology, laboratory parameters, severity scores, and complications were collected. Statistical analyses included chi-square tests, correlation analysis, and logistic regression.

Results: Patients managed with aggressive resuscitation had a significantly higher complication rate (54.7%) compared with the moderate group (45.3%, p = 0.020). Correlation analysis revealed a significant positive association between higher serum lipase levels and complications (r = 0.283, p < 0.05) and between the fluid protocol type and complications (r = 0.270, p < 0.05). Logistic regression indicated that aggressive fluid resuscitation increased the odds of complications nearly fivefold (OR 5.019; p = 0.053, marginally significant).

Conclusions: Our findings suggest that a moderate fluid resuscitation strategy may reduce complications in acute pancreatitis compared with an aggressive approach. Further prospective studies with larger samples are warranted.

Keywords: Acute Pancreatitis; Fluid Resuscitation; Aggressive Fluid; Moderate Fluid; Clinical Outcomes; Complications

"Effectiveness and Safety of Combining Drug-Eluting Transarterial Chemoembolization with Apatinib in Hepatocellular Carcinoma: A Systematic Review and Proportional Meta-Analysis"

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Abstract:

Introduction: Hepatocellular carcinoma (HCC) is one of the most common and aggressive cancers worldwide, accounting for approximately 80% of primary liver cancer cases, with an estimated 800,000 new diagnoses annually. Despite advancements in early detection, many patients are diagnosed at an advanced stage, limiting the effectiveness of curative treatments such as surgical resection and liver transplantation. As a result, locoregional therapies like Transarterial Chemoembolization (TACE) have become essential treatment options, particularly for patients with intermediate-stage HCC. Drug-eluting bead TACE (DE-TACE) has emerged as an enhancement over conventional TACE, offering more precise drug delivery and reducing systemic toxicity. Concurrently, Apatinib, a selective tyrosine kinase inhibitor that targets VEGFR-2, has shown promise in inhibiting angiogenesis and tumor growth in advanced HCC. Given the potential synergistic effects of DE-TACE and Apatinib, combining these therapies may improve clinical outcomes for HCC patients. This systematic review and meta-analysis evaluated the efficacy and safety of DE-TACE combined with Apatinib, focusing on survival outcomes, progression free survival rates, and treatment-related adverse events to optimize HCC management strategies.

Keywords: Hepatocellular carcinoma, drug-eluting transarterial chemoembolization, apatinib, angiogenesis, meta-analysis.

Material and Methods: We conducted a proportional meta-analysis and systematic review to assess the efficacy and safety of combining TACE with Apatinib in HCC patients. Data was sourced from PubMed, Cochrane, Scopus, and Embase resulting in a total number of 283 studies. Ten studies, including RCTs, retrospective, and propensity-matched studies, were found to be eligible and included. The primary outcomes were overall survival (OS) and progression-free survival (PFS), with safety outcomes focusing on treatment-related adverse events. RevMan software (version 5.4) was used for analysis, employing fixed-effect and random-effects models, and heterogeneity was assessed with I² and Cochran's Q test.

Results: The meta-analysis demonstrates the efficacy of combining Drug-Eluting Transarterial Chemoembolization (TACE) with Apatinib in improving survival and progression-free survival (PFS) for hepatocellular carcinoma (HCC) patients. For 1-year overall survival (OS), the fixed effects model estimates a survival rate of 64% (95% CI: 0.60-0.68), with the random effects model showing a slightly higher rate of 70% (95% CI: 0.53-0.83), and the highest reported survival rate reaching 93%. At 2 years, the fixed effects model suggests 20% survival (95% CI: 0.17-0.23), with the random effects model indicating 14% (95% CI: 0.08-0.24), and a peak of 53%. For 1-year PFS, the fixed effects model reports that 37% of patients remained

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progression-free (95% CI: 0.32-0.41), while the random effects model estimates 24% (95% CI: 0.12-0.44), with a maximum PFS of 76%. At 2 years, the fixed effects model shows 22% progression-free survival (95% CI: 0.17-0.28), while the random effects model suggests 4% (95% CI: 0.01-0.13), with the highest reported rate of 31%. These results indicate that the combination of TACE and Apatinib significantly improves both OS and PFS, offering superior outcomes compared to conventional therapies like TACE alone or sorafenib, which typically yield 1-year OS rates of 30-40% and 1-year PFS rates of 10-20%. However, treatment-related adverse effects were observed, primarily related to Apatinib, including hypertension, fatigue, and gastrointestinal disturbances, which are consistent with its known side-effect profile. Despite these adverse effects, the combination therapy's overall efficacy suggests that it remains a promising treatment option for HCC patients, potentially offering better survival and disease control.

Graph 1 compares the 1-year and 2-year Overall Survival (OS) and Progression-Free Survival (PFS) rates, highlighting the differences between fixed effects, random effects, and the highest reported survival outcomes.
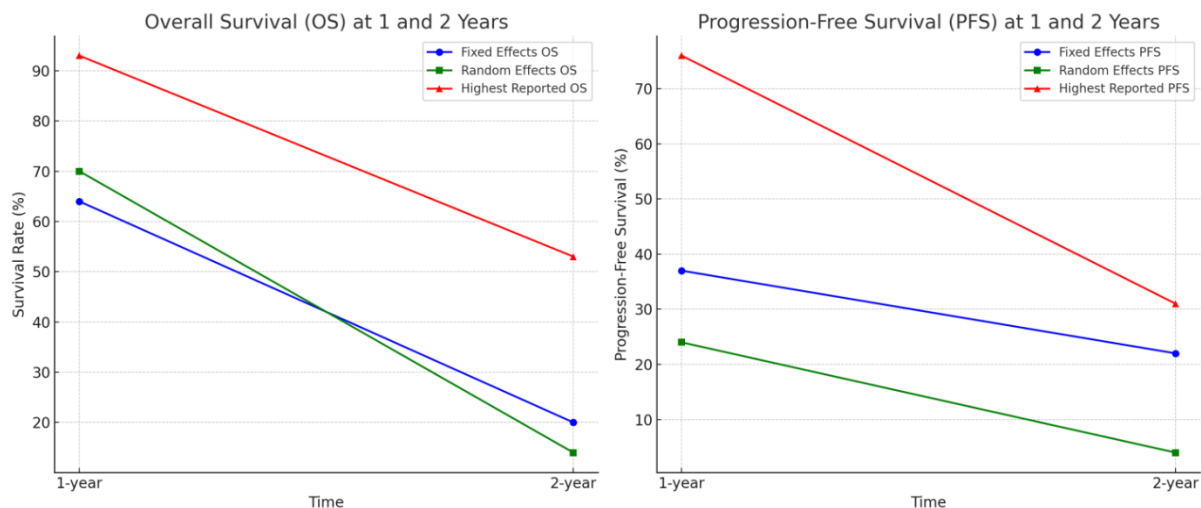
Conclusion: This meta-analysis and systematic review highlight that combining TACE with Apatinib significantly improves overall survival and progression-free survival in HCC patients, offering better outcomes than conventional therapies. While manageable adverse events, such as hypertension and gastrointestinal issues, were observed, the combination therapy remains safe and well-tolerated. These findings support its potential as an effective treatment option for improving survival and disease control in HCC patients.

"Factors predictive of lean Non-alcoholic Fatty Liver Disease in Pakistani population"

Mahboob Jan, Raja Taha Yaseen Khan, Syed Zahid Shah, Hina Ismail, Abbas Ali Tasneem, Nasir Hasan Luck

Sindh Institute of Urology and Transplantation

Abstract:

Background and Aims: 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. 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.

Methods: It was a cross-sectional study which was conducted at the department of hepatogastroenterology, Sindh Institute of Urology and Transplantation from 1st 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 ± 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 ± 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

"Predictors of frailty in patients with Hepatitis C associated liver cirrhosis"

Muhammad Qaiser Panezai, Raja Taha Yaseen Khan, Shoaib Ahmed Khan, Hina Ismail, Abbas Ali Tasneem, Syed Mudassir Laeeq, Nasir Hasan Luck

Sindh Institute of Urology and Transplantation

Abstract:

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

Methods: 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 <10g/dl and neutrophils >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

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"Quality of Life in donors and recipients of Liver transplant following Acute Liver Failure: Insights from a transplant center in Pakistan"

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1. Shifa International Hospital, Islamabad, Pakistan

Abstract:

Background: Acute liver failure described as a rapid deterioration in liver function lasting less than 26 weeks in individuals with no prior history of liver disease is characterized by encephalopathy and impaired synthetic function. Liver Transplant is a life-saving intervention in patients, who are worsening despite medical management. We aim to assess the difference in Quality of Life among donors and recipients of liver transplants following Acute Liver Failure.

Methods: Conducted at Shifa International Hospital with Institutional Review Board approval, data was collected from 48 patients (29 donors, 19 recipients) meeting inclusion criteria over a 10-year period. QoL was assessed using SF-36 parameters: Physical Functioning, Role Limitations (Physical and Emotional), Energy/Fatigue, Emotional Well-being, General Health, Health Changes, Social Functioning, and Pain. Statistical analyses were performed using SPSS v26, with independent samples t-tests for comparisons and significance set at $p<0.05$.

Results: Patients overall reported the highest satisfaction in Physical Functioning (91.04 ± 8.63) and the lowest satisfaction in Energy/Fatigue Levels (85.00 ± 16.70), as summarized in Table 1. Among donors, the highest satisfaction was observed in Health Changes (90.95 ± 19.74) and the lowest in Energy Levels (82.93 ± 21.28). Recipients reported the highest satisfaction in Physical Functioning (91.84 ± 8.65) and the lowest in Energy Levels (85.52 ± 19.85), as detailed in Table 2 and Graph 1. No statistically significant differences in QoL parameters were observed between donors and recipients ($p>0.05$), as detailed in Table 3.

Conclusion: There are no comparable differences in quality of life parameters between donors and recipients of liver transplant following acute liver failure.

Table 1:

Category	Mean Scores	Standard Deviation
Physical Functioning	91.04	8.63
Role Limitation Due to physical Health	88.54	29.15
Role Limitation due to emotional problems	93.05	21.70
Energy/Fatigue Levels	85.00	16.70
Emotional Well-being	90.17	16.77
General Health	85.62	18.15
Health Changes	82.81	22.57
Social Functioning	88.8	20.82
Pain	89.66	13.95

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Table. 2

Category	Donors Mean Scores	Donors Standard Deviation	Recipients Mean Scores	Recipients Standard Deviation
Physical Functioning	90.51	8.59	91.84	8.85
Role Limitation Due to physical Health	89.66	27.15	86.84	32.67
Role Limitation due to emotional problems	90.8	25.03	96.49	15.3
Energy/Fatigue Levels	84.66	14.63	85.52	19.85
Emotional Well-being	90.07	15.14	90.32	19.43
General Health	90.95	19.74	85.53	22.54
Health Changes	89.95	11.14	89.21	17.74
Social Functioning	82.93	21.28	89.74	11.24
Pain	78.44	24.75	89.47	17.31

Table 3:

Category	Sig. (2-tailed, Equal Variances Assumed)	Mean Difference (Equal Variances Assumed)	Std. Error Difference (Equal Variances Assumed)	95% CI Lower (Equal Variances Assumed)	95% CI Upper (Equal Variances Assumed)
Physical Functioning	0.608	-1.32486	2.56635	-6.49066	3.84093
Role limitation due to physical health	0.748	2.81307	8.68798	-14.6749	20.30106
Role limitations due to emotional problems	0.38	-5.68603	6.42069	-18.6102	7.23816
Energy/Fatigue	0.862	-0.87114	4.97917	-10.8937	9.15141
Emotional Well-being	0.961	-0.24682	5.00245	-10.3162	9.82258
Social Functioning	0.383	5.42196	6.16201	-6.98151	17.82543
Pain	0.86	0.73775	4.15937	-7.63464	9.11014
General Health	0.207	-6.80581	5.32084	-17.5161	3.90448
Health Change	0.098	-11.0254	6.53489	-24.1795	2.12864

Graph 1:

MEAN SCORES

Legend:
- Physical Functioning
- Role Limitation due to physical health
- Role limitation due to emotional problems
- Energy/Fatigue Levels
- Emotional Well-Being
- General Health
- Health Changes
- Social Functioning
- Pain

CUMULATIVE SCORE: 91.04, 88.54, 93.05, 85, 90.17, 85.62, 82.81, 88.8, 89.66

DONORS: 90.52, 89.66, 90.8, 84.66, 90.07, 90.95, 89.95, 82.93, 78.45

RECIPIENT: 91.84, 86.84, 96.49, 85.53, 90.32, 85.53, 89.21, 89.74, 89.47

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"Factors predicting portal biliopathy in patients with extrahepatic portal vein obstruction"

Muhammad Qaiser Panezai, Raja Taha Yaseen Khan, Farrah Hanif, Hina Ismail, Abbas Ali Tasneem, Syed Mudassir Laeeq, Nasir Hasan Luck

Sindh Institute of Urology and Transplantation

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 between 81% to 100% of patients with EHPVO have PHB on ERC Therefore, our aim was to determine the factors predicting PB in extra-hepatic portal vein obstruction.

Methods: This retrospective study was conducted at the Department of Hepatogastorenterology, 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

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"Role of "MANLATA model" in predicting recurrence in patients with Hepatocellular carcinoma undergoing Trans Arterial Chemo-embolization"

Muhammad Qaiser Panezai, Raja Taha Yaseen Khan, Hina Ismail, Syed Mudassir Laeeq, Abbas Ali Tasneem, Nasir Mehmood, Nasir Hasan Luck

Sindh Institute of Urology and Transplantation

Abstract:

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. 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 .

Methods: 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 <2.8 g/dl, serum alphafetoprotein > 300 ng/ml, neutrophil count >60 % and lymphocyte count <25% were independent predictors of post TACE recurrence. Using these variables, a model "MANLATA model" was developed which had an AUROC of (0.976) and at a cutoff >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, non invasive model

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"Non-invasive predictors of Hepatorenal syndrome in decompensated chronic liver disease"

Mahboob Jan, Raja Taha Yaseen Khan, Farina Hanif, Syed Mudassir Laeeq, Abbas Ali Tasneem, Nasir Hasan Luck

Sindh Institute of Urology and Transplantation

Introduction: Hepatorenal syndrome (HRS) is a frequent complication of advanced decompensated chronic liver disease (DCLD) that is associated with high morbidity and mortality. Our aim was to identify non-invasive predictors of Hepatorenal syndrome in DCLD patients.

Methods: It was a retrospective study which was carried out at the department of Hepatogastorenterology, 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 non invasive 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

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"Factors predicting mortality in Spontaneous Bacterial Peritonitis"

Muhammad Qaiser Panezai, Danish Kumar, Raja Taha Yaseen Khan, Hina Ismail, Abbas Ali Tasneem, Zain Majid, Syed Mudassir Laeeq, Nasir Hasan Luck

Sindh Institute of Urology and Transplantation

Abstract:

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

Methods: 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 ascitic fluid lactate levels at presentation are the potential and reliable predictors of mortality in SBP patients.

Keywords: SBP; mortality; predictors; cirrhosis

"Comparison of hepatic and extra hepatic scores in predicting mortality in patients with Hepatitis C related cirrhosis"

Muhammad Qaiser Panezai, Raja Taha Yaseen Khan, Hina Ismail, Danish Kumar, Abbas Ali Tasneem, Nasir Hasan Luck

Sindh Institute of Urology and Transplantation

Abstract:

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

Methods: It was a prospective cohort study which was conducted at the Department of Hepatogastroenterology, Sindh Institute of Urology and Transplantation from January 2019-Decmeber 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; Frailt

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"Risk factors of ascending cholangitis developing after endoscopic biliary stenting"

Muahmmad Qaiser Panezai, Raja Taha Yaseen Khan, Danish Kumar, Abbas Ali Tasneem, Syed Mudassir Laeeq, Nasir Luck

Sindh Institute of Urology and Transplantation

Abstract:

Introduction: Ascending cholangitis is associated with increased morbidity and mortality in patients with history of ERCP. We aimed to identify the risk factors of ascending cholangitis following endoscopic biliary stent placement.

Methods: 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. 66 (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

"Various patterns of liver function test derangement in patients on maintenance hemodialysis-a single centered experience"

Mahboob Jan, Raja Taha Yaseen Khan, Hina Ismail, Abbas Ali Tasneem, Ghazi Abrar, Nasir Hasan Luck

Sindh Institute of Urology and Transplantation

Abstract:

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

Materials and methods: 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

Endoscopy Section

"Percutaneous endoscopic gastrostomy tube placement after sleeve gastrectomy: a case report of usual procedure in an unusual gastric anatomy"

Asma Yaseen, Arif Siddiqui, Saad Khalid Niaz

Sindh Institute of Advanced Endoscopy and Gastroenterology

Abstract:

Percutaneous endoscopic gastrostomy (PEG) tube has been frequently placed for various indications in order to provide long term enteral nutrition support, i,ii,iii,iv. Approximately 160,000 to 200,000 PEG tubes are placed each year in United Statesv. Advancements in surgical interventions of gastrointestinal tract has resulted in increased number of anatomically altered stomachs, and so anatomically changed on endoscopic examination as well; which makes endoscopic interventions a little differentvi. Multiple case series have been reported for PEG tube placement in patients with subtotal gastrectomy vii, however, there is scarce data available for PEG tube placement in patients with history of sleeve gastrectomy. The case that is presented here is regarding 64 years old lady with history of sleeve gastrectomy and now referred for PEG tube placement as she was advised for radiotherapy for squamous cell carcinoma of right buccal mucosa. PEG tube was successfully placed and follow up to a month showed effectively functional PEG tube with no major complications.

Keywords: Percutaneous endoscopic gastrostomy, PEG tube, Sleeve Gastrectomy.

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"Assessment of the Safety and Efficacy of Peroral Endoscopic Myotomy (POEM) and the Incidence of Post-POEM Gastroesophageal Reflux Disease (GERD)"

Saad Khalid Niaz, Muhammad Asim Shareef, Javeria Salman, Abeer Altaf, Noval Zakaria

Sindh Institute of Advance Endoscopy and Surgical Unit-IV endoscopy unit, Dr. Ruth K. M. Pfau, Civil Hospital Karachi

Abstract:

Objectives: Peroral endoscopic myotomy (POEM) has been an established treatment modality for achalasia cardia for more than a decade worldwide. However, it continues to be relatively new and limited in a resource-limited setting such as Pakistan, with only one other center offering it. This study aims to guage the safety and effectiveness of POEM and the incidence of post-POEM Gastroesophageal Reflux Disease (GERD). Methods: Patients who had undergone POEM for achalasia at Sindh Institute of Advanced Endoscopy and Gastroenterology(SIAG) from January 2024 to November 2024 were recruited for this study. The primary objective was to assess for technical & clinical success of the procedure as well as the occurrence of subjective GERD requiring treatment, post-POEM. Subjective GERD was based on symptoms consistent with reflux. Technical success rate was defined as successful completion of the procedure in one attempt while clinical success was taken to be a post-POEM Eckardt score ≤3 at 3 months follow-up. Secondary outcomes included length of hospital stay, any intra-operative or post-operative complications. Results: 20 patients underwent POEM during this period, with mean age of 44.80 ± 16.5. The procedure was successfully completed in the first attempt in all patients, yielding a technical success rate of 100%. Intra-operative complications occurred in 2 out of 20 patients (10%) but were effectively managed during the procedure. Post-POEM, the average hospital stay was 3 days. Of the 20, one could not be contacted for a follow-up. At the three-month follow-up, all 19 patients reported an Eckardt score of ≤3 (mean Eckardt score:0.89±0.809), which translated to a clinical success of 100%. 8 out of 19 patients (42.1%) reported developing clinical GERD which was amenable to treatment by proton pump inhibitors

Conclusion: This study finds that POEM is highly effective and safe procedure for achalasia, with excellent success rates so far. Post-POEM GERD continues to be a concern but is seemingly manageable with PPIs. A longer follow-up may be required to effectively assess the long-term success of POEM in our population as well as post-POEM pH monitoring or endoscopy to objectively assess for GERD and its severity.

"Clinical Audit of Quality Indicators for All Gastrointestinal Endoscopic Procedures: Assessing Compliance with ACG Guidelines and Enhancing Patient Safety"

Saad Khalid Niaz, Sania Maqbool, Abeer Altaf, Dr. Muhammad Umer, Noval Zakaria

Abstract:

Introduction: GI endoscopy plays a vital role in diagnosing and managing various gastrointestinal disorders. The American College of Gastroenterology (ACG) has established quality indicators for endoscopic procedures to enhance safety and effectiveness. However, variability in adherence to these guidelines can affect patient outcomes. This audit evaluates compliance with ACG quality indicators in GI endoscopy procedures at the Sindh Institute of Advanced Endoscopy & Gastroenterology (SIAG).

Objective: To assess the compliance of GI endoscopy procedures with ACG quality indicators and identify areas for improvement in patient care.

Materials and Methods: A clinical audit was conducted at SIAG, involving 100 patients who underwent elective or urgent GI endoscopic procedures from August-December (2024). Data was collected through direct observation, audit questionnaires, and staff feedback over a three-month period. The audit focused on key quality indicators, including documentation of patient histories, informed consent, sedation plans, and antibiotic use.

Results: Of the 100 procedures audited, 32% had missing patient identification bands. Additionally, 7% of procedures lacked documented time metrics, and 7% had missing documentation in routes/doses of procedural medications. Compliance was 100% in documentation of sedation plans, informed consent and patient biodata confirmation.

Conclusion: The audit reveals significant gaps in documentation and adherence to quality indicators. Although the procedures were generally performed by credentialed professionals, areas for improvement were identified, particularly in pre-procedure or intra procedure documentation. Recommendations include regular staff training, automated documentation reminders, and enhanced tracking of patient outcomes to further improve the quality and safety of GI endoscopy procedures at SIAG

"Advancing Paediatric Care in Gastroenterology: Role of Endoscopic Ultrasound in Pediatrics at a Tertiary Referral Center in Pakistan"

Saad Khalid Niaz, Asma Yaseen, Shanil Kadir, Sajida Qureshi, Asim Shareef, Dr. Noval Zakariya

Sindh Institute of Advanced Endoscopy and Gastroenterology

Abstract:

Introduction: Endoscopic ultrasound (EUS) emerged as a revolutionary intervention in gastroenterology, serving both diagnostic and therapeutic purposes for more than four decadesi.EUS has been extensively utilized among adult patients, however EUS utility in pediatric patients has remained limited due to EUS endoscope design which includes rigidity, diameter, traumatic distal tip, further more complicated by need of Monitored Anesthesia Care (MAC) or General Anesthesia (GA) for intervention which require specialized pediatric anesthesia teamii. Fewer studies have been conducted so far regarding EUS utility, effectiveness and safety among children, most of the studies have smaller data. Recently, the European Society for Pediatric Gastroenterology Hepatology and Nutrition (ESPGHAN) and the European Society of Gastrointestinal Endoscopy (ESGE) have published joint guidelines for EUS in children which highlights the various indications for EUS in childreniii.In Pakistan, only few endoscopy centers are performing pediatric EUS. This article aims to describe the utility of EUS for both diagnostic and therapeutic purposes among children at a tertiary referral endoscopy center in Pakistan.

Methods: Retrospective analysis of EUS for patients ≤ 18 years of age, performed at single tertiary referral endoscopy center over 18 years, from 2007 to 2024. Data was collected from the institute's database.

Results: All the procedures were performed by endoscopist who bear certified training of endoscopic ultrasound. Linear array Echoendoscope and Radial Echoendoscopes were used. A total of 118 patients ≤ 18 years age had EUS, the youngest was 5 years old and 54.3% were male gender. Primary indications for EUS examination included: 35 chronic pancreatitis, 34 pancreatic pseudocyst, 12 pancreatic mass, 4 biliary obstruction with suspected choledochal cyst, 2 liver biopsy, 21 gastrointestinal tract lesions, 6 lymph nodes, 2 retroperitoneal lesions and 1 lesser sac lesion. 90 EUS were performed for diagnostic purpose, 17 patients underwent FNB and 4 underwent FNA. Among Therapeutic EUS, 23 patients underwent EUS guided pseudocyst drainage, 2 patients underwent celiac plexus block referred for pain management of chronic pancreatitis, one patient underwent EUS guided pancreatic duct cannulation with stent placement and one patient underwent EUS guided anterograde rendezvous' technique-choledocoduodenostomy for choledochal cyst. All therapeutic procedures were performed under general anesthesia whereas diagnostic EUS were performed under monitored anesthesia care. No immediate or early complications were seen.

Conclusion: In this modern era of advanced diagnostic tools and minimally invasive interventions, EUS related procedures are safe and effective in pediatric group of patients too. However, this procedure should be standardized and performed at centers with trained endoscopists and an experienced pediatric anesthesia team. i EugeneP. Dimagno, PatrickT.

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Regan, DavidA. Wilson, JamesL. Buxton, RobertR. Hattery, JoseR. Suarez, PhillipS. Green, ULTRASONIC ENDOSCOPE, The Lancet, Volume 315, Issue 8169, 1980, Pages 629-631,ISSN 0140-6736, https://doi.org/10.1016/S0140-6736(80)91122-8. (https://www.sciencedirect.com/science/article/pii/S0140673680911228) ii Thomson, M., Tringali, A., Dumonceau, J.-M., Tavares, M., Tabbers, M.M., Furlano, R., Spaander, M., Hassan, C., Tzvinikos, C., Ijsselstijn, H., Viala, J., Dall'Oglio, L., Benninga, M., Orel, R., Vandenplas, Y., Keil, R., Romano, C., Brownstone, E., Hlava, Š., Gerner, P., Dolak, W., Landi, R., Huber, W.D., Everett, S., Vecsei, A., Aabakken, L., Amil-Dias, J. and Zambelli, A. (2017), Paediatric Gastrointestinal Endoscopy. Journal of Pediatric Gastroenterology and Nutrition, 64: 133-153. https://doi.org/10.1097/MPG.0000000000001408. iii Thomson, M., Tringali, A., Dumonceau, J.-M., Tavares, M., Tabbers, M.M., Furlano, R., Spaander, M., Hassan, C., Tzvinikos, C., Ijsselstijn, H., Viala, J., Dall'Oglio, L., Benninga, M., Orel, R., Vandenplas, Y., Keil, R., Romano, C., Brownstone, E., Hlava, Š., Gerner, P., Dolak, W., Landi, R., Huber, W.D., Everett, S., Vecsei, A., Aabakken, L., Amil-Dias, J. and Zambelli, A. (2017), Paediatric Gastrointestinal Endoscopy. Journal of Pediatric Gastroenterology and Nutrition, 64: 133-153. https://doi.org/10.1097/MPG.0000000000001408

"Echoes of Progress: Unveiling the Role of Artificial Intelligence in Endoscopic Ultrasound – A Systematic Review"

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Abstract:

Introduction/background: Endoscopic ultrasound (EUS) has significantly advanced the field of gastroenterology, providing high-resolution imaging that allows for detailed visualization of the gastrointestinal tract and adjacent anatomical structures. This technology has proven invaluable in diagnosing and staging gastrointestinal disorders, offering a minimally invasive alternative to traditional methods. However, despite its many benefits, EUS in tumor resection carries inherent risks, particularly the potential for tumor seeding, which can complicate treatment outcomes. The emergence of artificial intelligence (AI) in the diagnosis and management of tumors offers new hope for overcoming these challenges. AI technologies have the potential to enhance the accuracy and precision of tumor detection, improve the assessment of resect ability, and minimize risks associated with surgical interventions. By leveraging machine learning algorithms and advanced image analysis techniques, AI promises to optimize EUS-guided procedures, ultimately improving patient outcomes and paving the way for more personalized and effective treatment strategies.

Methodology: We conducted a systematic search of electronic literature on the use of artificial intelligence (AI) in endoscopic ultrasound across databases including Medline, PubMed, Google Scholar, and PsycINFO up to April 2024. Studies were selected based on predefined PICO criteria: (P) AI in endoscopic ultrasound, (I) relevant interventions, © comparison with controls or standards, and (O) outcomes related to disease progression and prognosis. A total of 324 studies were identified, and after applying inclusion/exclusion criteria, 96 studies were selected for review. Data was extracted using Rayyan software, focusing on study characteristics, patient demographics, AI methodologies, intervention details, and key findings. Statistical analysis of efficacy, including diagnostic accuracy and clinical outcomes, was performed using SPSS. Only English-language studies were included, with disagreements resolved through consensus among team members.

Results : A total of 96 original articles on the application of artificial intelligence (AI) in endoscopic ultrasound (EUS) were identified in this review. The primary areas of focus for AI in EUS include cancer detection, assessing the depth of cancer invasion, and predicting pathological diagnoses. AI-enhanced EUS has been shown to significantly improve diagnostic accuracy by reducing inter-observer variability, thus enabling more precise and timely diagnoses. This, in turn, contributes to better patient management outcomes, particularly in the detection and staging of gastrointestinal cancers. The efficacy of AI in EUS, including its impact on diagnostic accuracy and clinical decision-making, is summarized in **Table 1**.

TABLE 1: Studies evaluating the use of AI in Endoscopic Ultrasound

Lesions	Results	Relevant Metrics
Subepithelial lesions (GIST) and GIST vs GIL (Gastrointestinal Leiomyoma)	AI-EUS: Sensitivity 92%, Specificity 80%. For GIST vs GIL: Specificity 90%. Non-AI: Sensitivity 72%, Specificity 70%.	Sensitivity: 92% (AI-EUS), 72% (Non-AI) Specificity: 80% (AI-EUS), 70% (Non-AI) Specificity for GIST vs GIL: 90% (AI-EUS)
Sub-epithelial lesions, esophageal cancer, gastric cancer, pancreatic lesions	AI-EUS superior to traditional methods in diagnosing various lesions, including esophageal and gastric cancers.	Diagnostic Superiority: AI-EUS is superior to traditional methods for various lesions.
Pancreatic cancer	AI-EUS: Sensitivity 92%, Specificity 90%, Odds Ratio 128.9.	Sensitivity: 92% Specificity: 90% Odds Ratio: 128.9
Malignant biliary strictures, cholangiocarcinoma	CNN-Cholangioscopy: Accuracy 94.9%, Sensitivity 94.7%, Specificity 92.1%.	Accuracy: 94.9% Sensitivity: 94.7% Specificity: 92.1%
Early esophageal cancer (EEC) and early gastric cancer (EGC)	EEC: Sensitivity 95%, Specificity 95%, PLR 10.76. EGC: Sensitivity 87%, Specificity 88%.	EEC Sensitivity: 95% EEC Specificity: 95% EEC PLR: 10.76 EGC Sensitivity: 87% EGC Specificity: 88%
Barrett's esophagus	AI accurately diagnosed and categorized Barrett's carcinoma with high diagnostic performance.	Diagnostic Performance: Accurate diagnosis and categorization of Barrett's carcinoma.
Dysphagia	Machine learning algorithms align with the Penetration Aspiration Scale, showing high diagnostic accuracy.	Diagnostic Alignment: High alignment with the Penetration Aspiration Scale.

Abbreviations:

AI-EUS refers to Artificial Intelligence-enhanced Endoscopic Ultrasound.

AUC: Area Under the Curve

PLR: Positive Likelihood Ratio

NLR: Negative Likelihood Ratio

DOR: Diagnostic Odds Ratio

CNN: Convolutional Neural Network
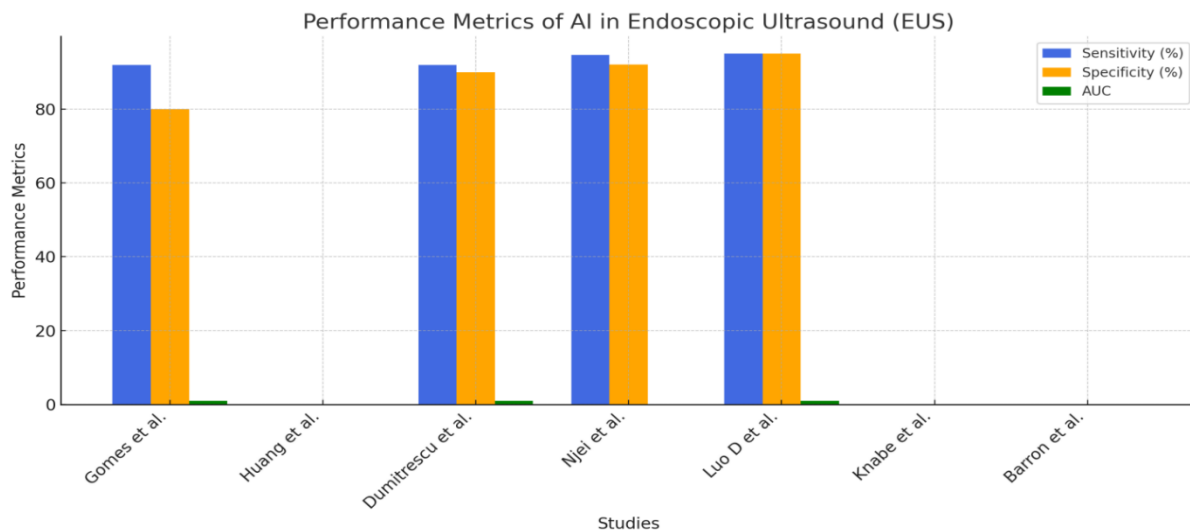
The Following graph illustrates the performance metrics of AI in Endoscopic Ultrasound (EUS) across the different studies.

Conclusion: Artificial-assisted endoscopic ultrasound is a reliable and important tool for computer-aided diagnosis of gastrointestinal diseases. In this review, we outline the published literature results. Rose-AI, CNN, and deep-learning models have shown promising results in the detection, staging, and prognosis of cancer. Most artificial intelligence clinical studies have used images in the field of gastrointestinal endoscopy and are still in preclinical stages. Therefore, prospective studies are required. Artificial intelligence will advance and be used in daily diagnostic and therapeutic practices.

Keywords: Artificial intelligence, AI, Gastrointestinal Pathologies, Gastrointestinal Endoscopy, Advancement, Therapies, investigations and Tumors.

"Spectrum of Endoscopic Findings in Patients Presenting with Persistent Vomiting"

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Abstract:

Background: Persistent vomiting is a common presenting complaint in gastroenterology, often requiring endoscopic evaluation for accurate diagnosis. Various upper gastrointestinal (GI) pathologies can cause this symptom, ranging from benign conditions like gastritis to more severe etiologies such as malignancies.

Objective: To determine the spectrum of endoscopic findings in patients presenting with persistent vomiting.

Methods: This retrospective study was conducted at the Gastroenterology Ward of Hayatabad Medical Complex, Peshawar, after approval from the hospital's ethical committee. Data was retrieved from the Hospital Information Management System (HIMS). Patients aged 15 to 75 years with persistent vomiting were included, while those with incomplete data, malignancies, or chronic liver disease were excluded. Demographic details, including age, gender, and BMI, were recorded. Endoscopic findings were analyzed and stratified by age, gender, and BMI using SPSS version 27. A p-value < 0.05 was considered statistically significant.

Results: A total of 114 patients were analyzed (mean age: 40 ± 17.52 years; mean BMI: 20.86 ± 1.98). The female-to-male ratio was 1.24. Endoscopy was normal in 45 (39.5%) patients, while 69 (60.5%) had abnormal findings. The most common endoscopic diagnoses included gastritis (9.6%), malignancy (7.9%), gastric ulcer (4.4%), duodenal ulcer (3.5%), hiatus hernia (6.1%), and reflux esophagitis (1.8%). Miscellaneous findings, including esophageal stricture, polyps, and esophageal candidiasis, were noted in 27.2% of cases. Gastritis and gastric ulcer were predominant in younger patients, while malignancy and duodenal ulcer were more frequent in those above 50 years.

Conclusion: A significant proportion of patients with persistent vomiting had identifiable endoscopic abnormalities. Upper GI endoscopy remains a valuable diagnostic tool for evaluating these patients, aiding in early diagnosis and targeted management.

Keywords: Persistent vomiting, endoscopy, gastritis, malignancy, gastrointestinal disorders.

"Clinical Audit of Endoscopic Retrograde Cholangiopancreatography (ERCP) Quality Indicators: Assessing Adherence to ASGE/ACG Standards and Improving Patient Outcomes"

Saad Khalid Niaz, Sania Maqbool, Noval Zakaria, Abdul Karim Durvesh

Abstract:

Introduction: Endoscopic Retrograde Cholangiopancreatography (ERCP) is crucial for diagnosing and managing biliary and pancreatic diseases. Adherence to quality indicators ensures improved patient safety, procedural success, and outcomes. This retrospective clinical audit evaluates adherence to quality indicators for ERCP at Sindh Institute of Gastroenterology (SIAG), focusing on pre-procedure evaluations, procedural success, and post-procedure documentation.

Objective: To assess the adherence to ASGE and ACG quality indicators for ERCP procedures, evaluating pre-procedure preparation, procedural success, and post-procedure management.

Materials and Methods: A retrospective audit was conducted using patient files from over 2500 ERCP reports from May 2023 to January 2025. A random sample of 200 reports was collected over one month. Data was gathered from medical records, procedure reports, and follow-up notes, assessing indicators such as medical history review, informed consent, technical success, complications, and documentation completeness.

Results: A total of 200 ERCP reports were reviewed. Key findings include:

· **Pre-procedure history and clinical examination:** 100% of reports documented the review of medical history and relevant investigations, including liver function tests and coagulation profiles.

· **Indications for ERCP:** 98% of reports showed appropriate documentation of the indications (e.g., biliary obstruction, cholangitis, pancreatic pathology).

· **Cannulation success:** 91% of procedures successfully cannulated the duct on the first attempt, meeting the benchmark for technical success.

· **Post-procedure complications:** 0.004% of procedures experienced complications, including post-ERCP bleeding.

· **Documentation:** 95% of reports had complete post-procedure documentation, including discharge instructions and follow-up plans.

Conclusion: The audit demonstrates that ERCP procedures at SIAG largely adhere to ASGE/ACG quality standards, with strong performance in pre-procedure evaluations and procedural success. However, there are areas for improvement in documentation completeness and complication reporting. Recommendations include improving post-procedure

documentation practices and reducing complication rates. Continued adherence to established quality indicators will further optimize patient outcomes and safety.

"17-Year review of Endoscopic Retrograde Cholangiopancreatography at a tertiary care center in Karachi: Assessing procedural success, complications, and patient outcomes"

Saad Khalid Niaz, Noval Zakaria1, Asma Yaseen, Muhammad Umair Tahseen, Muhammad Asim, Sajida Qureshi, Aftab Laghari, Shehriyar Ghazanfar, Saeed Qureshi, Shanil Kadir, Arif Siddiqui

Sindh Institute of Advanced Endoscopy and Gastroenterology (SIAG)

Abstract:

Introduction: Endoscopic retrograde cholangiopancreatography (ERCP) is treatment of choice for pancreato-biliary obstructive disorders. Due to improper record keeping of data, literature regarding indications and quality of ERCPs in Pakistan is limited. This descriptive retrospective cross sectional study from a single center, aims to present the indications and quality indicators of ERCP at our center.

Methodology: 13,215 ERCPs were performed from 2006 to 2023 in Sindh Institute of Advanced Endoscopy and Gastroenterology (SIAG), at Dr. Ruth K.M PFAU Civil Hospital. Records were retrieved from the local database of institute after IRB approval and was analyzed using SPSS Software version 25.

Results: Among 13215 procedures,4% were aged<18years, 59.2% were female patients. Biliary ERCPs were 91.5%, with main indication as choledocholithiasis i.e.39.06%, followed by biliary strictures 18.65%. Pancreatic duct stones and pancreatic duct strictures were the main indication for pancreatic ERCP. Successful first pass biliary cannulation rate was 91.3% whereas 94.3% for pancreatic ERCP. Bleeding occurred in 1.7% of patients, followed by cardiopulmonary adverse effects (0.2%) and perforation (0.19%).

Conclusion: SIAG is one of the largest centers in Pakistan where quality advance endoscopic procedures are performed without any charges to patient along with proper health record mantainence system. There is a limitation of such centers in Pakistan. This study represents the common etiologies and quality of ERCP in Pakistan with properly maintained electronic health data at a large-scale. However, database development at national level is required for further evaluation of indications and quality of ERCP at Pakistan in order to find out the epidemiological differences across the world.

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"Spyglass-guided electrohydraulic lithotripsy for difficult common bile duct stones: A single-center study evaluating efficacy and safety of advanced endoscopic approach"

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Sindh Institute of Advanced Endoscopy and Gastroenterology (SIAG)

Abstract:

Introduction: Difficult CBD stones are defined as stones that cannot be removed via conventional methods, such as endoscopic sphincterotomy (ES), balloon or basket extraction, mechanical lithotripsy, or dilation of the papilla of Vater. Such stones may be large, impacted, or located in challenging regions of the biliary tree, where endoscopic access is limited. According to the ASGE (American Society for Gastrointestinal Endoscopy), difficult stones are those that cannot be extracted during the first endoscopic retrograde cholangiopancreatography (ERCP) session. Common factors are large stone size or impaction within the duct with or without distal stricture, complex post-surgical biliary anatomy, etc. Despite advances in endoscopic techniques, traditional methods may fail in 5% of cases, necessitating the use of alternative treatment modalities such as lithotripsy to fragment and remove these stones.

Objectives: The primary goal of this study is to evaluate the effectiveness of the Spyglass-guided electrohydraulic lithotripsy (EHL) in achieving complete clearance of difficult common bile duct stones that were not amenable to conventional endoscopic therapy. Secondary Objectives: We aim to explore the number of EHL sessions required to achieve stone clearance and complications associated with this procedure.

Methodology: Single-center, prospective observational study was conducted at Sindh Institute of Advanced Endoscopy and Gastroenetrology. The Spyglass Direct Visualization System (Boston Scientific, USA) was used in all cases to directly visualize the stones and guide treatment. Patients with impacted or large stones that were not removable through conventional methods underwent electrohydraulic lithotripsy (EHL) using the Nortech AUTOLITH system (Northgate Technologies, USA). Once the stones were fragmented, stones were flushed and removed with a balloon or basket extractor. Patients were followed to determine if they required further treatment, including biliary stent exchanges or surgical intervention. The procedural success rate and complication rate were key measures of outcomes.

Results: 105 patients were enrolled over period of 5 months from 1st June 2024 to 30th November 2024, 79.04% of patients achieved complete CBD clearance using Spyglass-guided EHL,10.4% of patients were scheduled for follow up session of EHL, rest of patients were loss to follow up. This demonstrates the efficacy of the technique in treating difficult bile duct stones that were resistant to conventional methods. 65% of patients required second session of EHL, 17% of patients required 3rd session of EHL where as 5.7% of patients required 4th session of EHL. Patients requiring more than one session often had multiple or larger stones, or stones located in anatomically challenging areas of the bile duct. The most common

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complication observed was hypoxia which occurred in 3 patients, 1 patient developed bleeding which was stopped with adrenaline injection at ampulla site.

Conclusion: This study highlights the success of Spyglass-guided EHL as a reliable treatment for difficult CBD stones. The high rate of duct clearance supports the utility of this approach in patients where conventional endoscopic methods have failed. The ability to directly visualize the stone and apply targeted lithotripsy under real-time guidance increases the precision of stone fragmentation and retrieval. The findings suggest that Spyglass-guided EHL can reduce the need for more invasive surgical interventions in this subset of patients. The relatively low complication rate indicates that the procedure is safe when performed by experienced endoscopists.

Limitations: Larger, multi-center studies are necessary to validate these findings. Additionally, the need for multiple EHL sessions in some patients may be a barrier, increasing the overall treatment time and resource use.

"Endoscopic findings in patients with different breakfast timings & their short lead score"

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Abstract:

Background: Breakfast, as the first meal of the day, varies considerably over time among people of even same culture and country. Especially in urban people it has changed over time, in terms of content & timing. Missing meals specially breakfast might make you feel unhealthy and low in performance and causes significant changes in Gut.

Objective: To see endoscopic changes in patients with different breakfast timings and their short Leeds dyspepsia score, visiting outpatient clinics in a tertiary care hospital.

Methods: This cross-sectional study was performed in outpatient clinics of Gastroenterology Department in Liaquat National Hospital, Karachi after acquiring formal permission from Hospital Ethics. Short-Form Leeds Dyspepsia Questionnaire (SF-LDQ) was used to identify severity of dyspepsia and Gastroscopy was performed in symptomatic patients to see endoscopic findings. Data was analyzed using SPSS version 21.

Results: Total 400 patients were enrolled into the study with mean age of 43±15.8 years and majority of them were males (53%). Average breakfast time was 9.0am±1.8hr (it ranges from 5:30am to 11.45am). Endoscopic features like frequency of esophagitis (50%), moderate to severe gastritis (38.7% & 65.4% respectively) and duodenitis (69.9%) were higher in patients having breakfast after 9-10 am. Frequency of dyspeptic symptoms was 86.5%, 75.3%, 45.3% and 42% for indigestion, heartburn, nausea and regurgitation respectively. Mean SF Leeds score was 14±5.6. Regression analysis showed that there was increase of 2.03 units in SF Leeds score with one-unit increase in breakfast timing.

Conclusion: The present study found a significant relationship of breakfast timing with endoscopic severity of inflammation in Gut and increase SF Leeds score, particularly in those patients having breakfast after 10:00 O' clock in morning.

Key words: Breakfast, Endoscopic findings, short LEED score.

"Utility of Endoscopic Ultrasound guided strain ratio in differentiation of hepatobiliary lymph nodes"

Mahbbob Jan, Raja Taha Yaseen Khan, Abbas Ali Tasneem, Nasir Hasan Luck

Sindh Institute of Urology and Transplantation

Abstract:

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

Methods: 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). At an optimal cutoff of >43, SR had a sensitivity of 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

"Factors predicting mortality in Cholangiocarcinoma in patients undergoing endoscopic biliary drainage"

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Abstract:

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

Methods: 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.Univaraite 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 chlangiocarcinoma 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

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"Solid and cystic pancreatic lesions: Frequency, histopathology and factors predicting good yield of biopsy"

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Abstract:

Introduction: Endoscopic ultrasound (EUS) is constantly gaining importance in evaluation of both solid (SPL) and cystic pancreatic lesion (CPL). In this study we report the frequency of various pancreatic lesions and factors determining the good yield of biopsy for pancreatic lesions.

Methods: 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 guage (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 ≥12mm (p<0.001), use of FNB (vs FNA) needle (p=0.004), 19G (vs 22G) needle (p=0.003), ≥3 needle passes (p<0.001). Multivariate analysis showed that size of the lesion >12mm, 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 >12mm, 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 yield

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