



Editorial commentary on the Indian Journal of Gastroenterology—May–June 2022

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Ratio of aspartate aminotransferase to alanine aminotransferase and alkaline phosphatase to total bilirubin in Wilsonian acute liver failure in children

Acute liver failure (ALF) secondary to Wilson's disease (WD) is invariably fatal without emergency liver transplantation, and requires a prompt diagnosis [1]. Although reduced ceruloplasmin and elevated copper levels support a diagnosis of WD, they are less reliable in a fulminant setting [1]. Laboratory findings associated with fulminant WD include Coombs negative hemolytic anemia, low serum uric acid levels, low serum alkaline phosphatase (ALP) activity and increased aspartate amino transferase (AST):alanine amino transferase (ALT) ratios [2].

Yasmin and colleagues from Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka, Bangladesh, report on a series of 60 children with ALF, of whom 40 had WD-associated ALF (WALF) [3]. The median AST/ALT ratio was higher in WALF than in non-WALF patients with sensitivity and specificity of 70% and 95% and a positive and negative predictive value of 96.5% and 61.3%, respectively. At a cut-off value of ≥ 1.85 , AST/ALT ratio had a sensitivity of 77.5% and specificity of 95%. An ALP/total bilirubin ratio < 4 had sensitivity and specificity of 32.5% and 100% and a positive and negative predictive value of 100% and 42.5%, respectively. The authors suggest that using these routinely available tests, patients with fulminant WD may be identified promptly, enabling emergency listing for liver transplantation for this rare but near uniformly fatal disorder.

Anastomotic biliary stricture following liver transplantation and management analysis: A 15-years of experience at a high-volume transplant center

Biliary complications (BCs) are the most common complications after liver transplantation (LT), ranging from 5% to 20% [4]. Although most of these occur in the first 3 months, these may also appear several years after LT. Anastomotic strictures (AS), non-anastomotic strictures (NAS), and biliary leakage are the most frequent complications. Risk factors for AS include surgical techniques and donor's characteristics.

In this issue of the *Indian Journal of Gastroenterology*, Eslami and colleagues from the Liver Transplant Center in Tehran, Iran, report a retrospective single-centre study of 717 consecutive patients (291 women), undergoing LT between 2001 and 2016 [5]. Post-transplant AS developed in 70 patients. Biliary leak, hepatic artery thrombosis, and acute rejection were identified as independent risk factors. Treatment with the highest effectiveness included surgery in 6 patients, endoscopic retrograde cholangiopancreatography (ERCP) with a metal stent in 18 patients, percutaneous transhepatic biliary drainage in 9 cases, and ERCP with a single-plastic stent in 8 cases.

Despite the improvements in surgical techniques, immunosuppressive regimens, and organ preservation, BCs remain an important source of mortality and morbidity, leading to long-term repeated therapies including endoscopic, percutaneous, and surgical procedures.

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Distribution of celiac disease predisposing genes HLA-DQ2 and -DQ8 in the native population of southern India

Nearly all people with celiac disease (CD) possess HLA-DQ2, HLA-DQ8, or half HLA-DQ2; yet up to 40% of people in

America, Europe, and Southeast Asia carry these alleles, implying that although necessary, these are insufficient for CD to manifest [6]. Geographical variability in the prevalence of DQ2 and DQ8 has been previously reported [6].

In this issue of the *Indian Journal of Gastroenterology*, Verma and colleagues from Università Politecnica delle Marche, Italy, and SRM Medical College Hospital and Research Centre, Tamil Nadu, India, studied the HLA-DQ2 and HLA-DQ8 distribution in a native, low-gluten consuming southern Indian population [7]. Among 211 dried blood spots collected, 42% tested positive for both HLA-DQ2 and HLA-DQ8, with 19% (40 individuals) typed positive for HLA-DQ2 and 23% (48 individuals) positive for HLA-DQ8 genotypes. One individual tested positive for the DQB1*02 allele.

Larger studies assessing prevalence and demonstration of other genetic factors in and outside the major histocompatibility complex (MHC) region associated with increased risk of CD are needed, allowing insights into pathogenic mechanisms of CD.

Effectiveness of low volume split-dose versus same day morning polyethylene glycol regimen for adequacy of bowel preparation in patients undergoing colonoscopy: A single blinded randomized controlled trial

Adequate bowel preparation is essential for optimal visualization of the colonic mucosa and for detection of mucosal lesions. Inadequate colon preparation is associated with longer procedural time, incomplete colonoscopy, potential for missed pathology, increased cost (decreased interval to repeat examination), and indeed potential risk for increased complications. Colonoscopy preparations tend to be disliked and poorly tolerated, which represents a major barrier toward screening and surveillance. Polyethylene glycol (PEG), a commonly used bowel preparation, is currently recommended as a split-dose regimen. In this issue of the *Indian Journal of Gastroenterology*, Mohan et al. from Jawaharlal Institute of Postgraduate Medical Education and Research, Puducherry, India, report a single blinded randomized controlled trial, in 384 patients evaluating the efficacy, tolerability, and acceptability of same day (SD) PEG (192 patients) compared to low-volume split dose (SPL) PEG (192 patients) undergoing late morning colonoscopy [8]. The adequacy and acceptability of bowel preparation (assessed by the Boston Bowel Preparation Scale [BBPS]) was greater in the SD group than SPL, demonstrating statistical significance. Tolerability and satisfaction with both regimens were similar between groups but interference with sleep was greater in the SPL group. Investigators suggest that SD PEG regimens may be considered for late morning colonoscopy.

Higher dietary total antioxidant capacity is inversely associated with *Helicobacter pylori* infection among adults: A case-control study

Helicobacter pylori (*H. pylori*), a class I carcinogen, is associated with a variety of severe gastroduodenal diseases. Recent studies have assessed novel strategies to improve *H. pylori* management and reduce the risk of *H. pylori*-associated intestinal and extra-gastrointestinal disorders [9]. Antioxidant supplements have been demonstrated in many studies to have an interaction with *H. pylori* infection, either directly through the regulation of the host inflammatory pathways or indirectly by promoting the host immune response. In this issue of the *Indian Journal of Gastroenterology*, Nabavizadeh and colleagues from Research Institute for Children's Health, Shahid Beheshti University of Medical Sciences, Tehran, Iran, report a case-control study of 200 participants positive for *H. pylori*, and 402 healthy controls, who were asked to complete a 168-item quantitative food frequency questionnaire [10]. The dietary total antioxidant capacity (DTAC) was calculated based on the oxygen absorbance capacity of each food substance. Participants in the highest quartile of DTAC had a significantly reduced odds ratio of *H. pylori*, which held true when adjusted for age and sex and also for body mass index, waist circumference, physical activity, smoking status and dietary intake of energy and fat.

We are learning that antioxidant activity of vitamins can reduce oxidative stress and further suppress *H. pylori*-induced inflammation. Further studies investigating a large-scale population of infected individuals to elucidate the impact of vitamin supplementation on *H. pylori* eradication rate and side effects are needed.

Pancreatic, hepatobiliary and gastrointestinal manifestations of children with cystic fibrosis: A 10-year experience from a tertiary care centre in southern India

Cystic fibrosis (CF) affects at least 100,000 people worldwide and is characterized by chronic pulmonary infection and inflammation, pancreatic exocrine insufficiency, male infertility, and several comorbidities such as CF-related diabetes or liver disease [11]. Management strategies, including augmenting muco-ciliary clearance and prompt treatment of infections, have improved life expectancy for people with CF, as indeed restoration of cystic fibrosis transmembrane conductance regulator (CFTR) function via new small molecule modulator drugs. In the first report from India, Lionel et al. from the Christian Medical College, Vellore, India, reports the demography and clinical manifestations in children with CF [12]. Among 109 children (53% from southern India), pancreatic insufficiency (PI) was the most common manifestation and associated with severe malnutrition. Of 21 children who died,

90% had PI. The data provide valuable insights into the clinical course of CF in India, highlighting the need for prospective registries, earlier diagnosis to improve outcomes, and to understand the course of disease as also the implications of manifold variables, such as different diet and environmental exposures, genomic backgrounds, comorbidity from other recessive disorders, socioeconomic status, and disparate access to coordinated specialized care and treatments for this condition.

Prospective validation of AIIMS' index as a predictor of steroid failure in patients with acute severe ulcerative colitis

Acute severe ulcerative colitis (ASUC) is a medical emergency that requires hospitalization for intensive monitoring and therapy under a gastroenterologist with experience in managing IBD. The critical decision for patients who have not responded to corticosteroids by day 3 is between medical rescue therapy and surgery [13]. Several mathematical risk stratification tools incorporating clinical criteria have been developed, and predict the need for timely rescue therapy or colectomy, but many are limited by using stool frequency as a patient-reported outcome, a subjective clinical variable dependent on rectal inflammation, which may in turn be influenced by tenesmus and/or local therapy [13].

In this issue of the *Indian Journal of Gastroenterology*, Sahu and colleagues from All India Institute of Medical Sciences, New Delhi, India, present a validation study for the previously reported AIIMS index, as a predictor of steroid failure in patients with ASUC [14, 15]. A UCEIS ≥ 7 at admission and fecal calprotectin (FCP) $>1000 \mu\text{g}$ were independent predictors of steroid failure [14]. Among 39 patients admitted with ASUC, 15 (38%) failed IV steroids and required rescue therapy. On multivariate analysis, a day 3 FCP $>1000 \mu\text{g}$ (OR 6.2) and baseline UCEIS ≥ 7 (OR 10.1) were independent predictors of steroid failure and need for rescue therapy [15]. The AIIMS index predicted steroid failure with better specificity and positive predictive values than the Oxford criteria. Further validation from other centres is now urgently needed.

Hand-grip strength as a screening tool for sarcopenia in males with decompensated cirrhosis

Frailty and sarcopenia are associated with poor outcomes and mortality in people with cirrhosis [16]. Although multifactorial, frailty is in part due to sarcopenia. The skeletal muscle index (SMI) is the gold standard, but data on bedside assessment of sarcopenia are limited. Singh and colleagues from the Post Graduate Institute of Medical Education and Research,

Chandigarh, India, assessed the performance of hand grip strength (HGS), using a hand-grip dynamometer, as a screening tool for sarcopenia in 155 consecutive male patients with decompensated cirrhosis [17]. Sarcopenia was noted in 26.5% of patients. HGS demonstrated modest correlation with SMI. The authors observed that age and HGS were independent predictors of sarcopenia on multivariate analysis and suggest that HGS be used as a screening tool to stratify for confirmatory computerized tomography (CT)-based assessment of sarcopenia.

Low risk of nosocomial SARS-CoV-2 infection in patients with liver disease admitted to a hepatology unit at an academic hospital: A single-center

Chronic liver diseases can have an adverse effect on the clinical outcomes of patients with corona virus disease 19 (COVID-19). In this issue of the *Indian Journal of Gastroenterology*, Toniutto and colleagues from Azienda Sanitaria Universitaria Integrata, Udine, Italy, report a study aimed at determining if patients with chronic liver disease are at higher risk of nosocomial transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection [18]. They prospectively enrolled 143 patients with chronic liver disease, admitted at least once to the hepatology unit, 95 of whom were admitted at least twice during the study period. In their assessment, none of these patients tested positive for SARS-CoV-2 infection by reverse transcription-polymerase chain reaction (RT-PCR) at the first or the second evaluation leading the authors to suggest that patients with liver disease may not be at an increased risk of nosocomial SARS-CoV-2 infection. Notably, the authors do advise caution with the interpretation of their findings, given the small sample size, lack of a clinical control group and the manifold variables that influence such outcomes in various settings.

Endocuff-assisted push enteroscopy increases the detection of proximal small-bowel gastrointestinal angiodysplasias

Video capsule endoscopy (VCE) and deep enteroscopy (DE) play important roles in the diagnosis and treatment of small bowel gastric angiodysplasias (GIAD), the most common causes of small intestinal bleeding. VCE is currently recommended by gastroenterology societies as a first-line test for evaluating the presence of small-bowel bleeding [19]. DE enables pathological diagnosis and therapeutic intervention within the small bowel. Can device-assisted enteroscopy (DAE) using Endocuff (EC) augment GIAD detection?

Jackson and colleagues from the VA Loma Linda Veterans Healthcare System, California, USA, report a retrospective experience of patients with active or suspected small-bowel bleeding, referred for push enteroscopy (PE), between 2006 and 2018 [20]. Among 25 patients undergoing PE without EC followed by PE with EC, GIAD were detected by PE in 9 of 25 patients but following PE with EC, GIAD detection increased to 23 of 25 patients and were within the reach of the PE. Limitations of the retrospective study with a small sample size and other variables are discussed by the authors but prospective studies exploring the potential incremental value of device-assisted enteroscopy are needed.

Gastrointestinal complications (gangrene or perforation) after corona virus disease 19 — A series of ten patients

Although respiratory symptoms remain the predominant presentation, gastrointestinal (GI) symptoms are frequently seen in patients with corona virus disease 19 (COVID-19) and can have serious or life-threatening outcomes. In this issue of the *Indian Journal of Gastroenterology*, Chaugale and colleagues from Medanta Medicity Hospital, Gurugram, India, in northern India, report a case series of 10 patients managed for serious GI complications of COVID-19 [21]. The series provides an insightful overview for the practising gastroenterologists.

Thrombosis leading to acute abdomen in corona virus disease 19: A case series

Corona virus disease 19 (COVID-19) is associated with arterial and venous thromboembolic disease, which portends a poor prognosis. The thrombogenic state from COVID-19 is postulated to be due to a combination of direct viral infection of endothelial cells, resulting in endothelial dysfunction and marked abnormalities in markers of hypercoagulability [22]. Hashim and colleagues from the Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow, India, present a case series of two patients with COVID-19 presenting with an acute abdomen [23]. They highlight the importance of awareness of this association and timely evaluation of abdominal vessels in COVID-19 patients who present with abdominal symptoms, to diagnose, and when possible, prevent catastrophic outcomes.

Declarations

Conflict of interest JKL declares that he has no conflict of interest.

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