



## Editorial commentary on the Indian Journal of Gastroenterology– May–June 2021

Jimmy K. Limdi<sup>1,2,3</sup> 

Published online: 19 May 2021

© Indian Society of Gastroenterology 2021

### Serum C-reactive protein and neutrophil to lymphocyte ratio as predictors of survival in cirrhotic patients with systemic inflammatory response syndrome and bacterial infection

Patients with liver cirrhosis are at risk of significant morbidity and mortality from infectious complications [1]. Data on biochemical surrogates as predictors of infection are scarce. Tapadia et al. from Gleneagles Global Health City, Chennai, India assessed the predictive value of C-reactive protein (CRP) and the neutrophil-lymphocyte ratio (NLR) alone and in combination in predicting infection in a cohort of 208 consecutive hospitalized patients with cirrhosis [2].

In addition to standard assessments (laboratory, ultrasound and appropriate cultures), CRP and NLR were also obtained. Investigators noted an infection rate of 62% with 58.5% culture positivity and mortality of 30.8%. Optimal cut-off values for NLR and CRP to predict infection were 5.86 and 33.7, respectively. One-month mortality risk was 2–3 times with NLR and CRP above these cut-off values. The combination of NLR + CRP ( $\geq 5.86$  and  $\geq 33.7$ ) increased specificity and diagnostic accuracy for infection suggesting that these may have a role in predicting infection and even culture positivity. Prospective controlled studies are needed to validate this interesting observation.

---

✉ Jimmy K. Limdi  
Jimmy.Limdi@nhs.net

<sup>1</sup> Section of Inflammatory Bowel Diseases, Division of Gastroenterology, The Pennine Acute Hospitals NHS Trust, Manchester, UK

<sup>2</sup> Manchester Academic Health Sciences, University of Manchester, Manchester, UK

<sup>3</sup> Manchester Metropolitan University, Manchester, UK

### Evaluating the efficacy of nitazoxanide in uncomplicated amebic liver abscess

Metronidazole has been the drug of choice for treatment of amebic liver abscess, but is associated with side effects, poor compliance, occasional incomplete clearance [3]. Other nitroimidazole drugs and chloroquine are also effective but have significant side-effects. Goel et al. from S M S Medical College, Jaipur, India report on the efficacy and safety of nitazoxanide as compared to metronidazole in a randomized study of 60 patients with amebic liver abscess [4]. Although the number of patients achieving symptomatic clinical response was similar in both the groups, symptomatic clinical response was greater in the nitazoxanide than in the metronidazole group. There was no significant difference between both the groups with respect to complete resolution of the abscess, but metronidazole was associated with a greater frequency of side effects as compared to nitazoxanide [4]. The study was limited by a small sample size and inclusion of uncomplicated amebic liver abscesses, but it suggests a role for nitazoxanide in uncomplicated amebic liver abscess.

### Post-liver transplant complications of Budd-Chiari syndrome

Budd-Chiari syndrome (BCS) is a rare and potentially life-threatening disorder characterized by obstruction of the hepatic outflow tract at any level between the junction of the inferior vena cava with the right atrium and the small hepatic veins [5]. Although anticoagulation is the mainstay of management, the majority of patients need invasive treatment including transjugular intrahepatic portosystemic shunt (TIPS) and liver transplantation (LT). Asl et al. from Shiraz Transplant Research Center, Shiraz University of Medical Sciences, Shiraz, Iran present a retrospective experience of outcomes following LT for BCS vs. LT for other etiologies (NBC) [6]. Among 4225 patients receiving LT, 108 had BCS and an age-

and gender-matched control group consisted of 108 NBC cases with comparable mean model for end-stage liver disease (MELD) scores ( $19.1 \pm 3$  and  $20 \pm 3$ ) for BCS and NBC groups, respectively. Survival rates at 1, 3, 5-, and 10-year in the BCS group (82%, 78%, 76%, and 76%) were comparable with NBC rates of 83%, 83%, 83%, and 76%, respectively, with no difference between both the groups in complication rates after 6 months.

### Management of scope induced type I duodenal perforations: Over-the-scope clip versus surgery

Iatrogenic duodenal perforation is a rare but serious complication and although until recently surgery has represented the standard of care, guidelines support endoscopic closure of the defect if recognized within 12 h [7]. Dahale et al. from D Y Patil, Medical College and Hospital, Pune, India, and G B Pant Institute of Postgraduate Medical Education and Research, New Delhi, India, present a retrospective series of the management of scope-induced duodenal perforations identified and treated within 24 h of the procedure [8]. Of 20 eligible patients, 8 were treated with over-the-scope clip (OTSC) placement, the rest underwent surgery. The median size of perforation was 1.5 cm in both the groups. All patients were treated with standard of care according to institutional protocols. In patients in the OTSC group, oral feeds were commenced after 48 h of OTSC placement, and a median 7 days for the surgical group. The median hospital stay was 2 days in the OTSC group vs. 22 days in the surgical group. The authors discuss their experience and suggest that OTSC may be feasible following prompt recognition of the perforation, provided expertise and infrastructure exist.

### Living donor liver transplantation for hepatocellular carcinoma in Indian patients -Is the scenario different?

Liver transplantation is the best treatment option for patients with hepatocellular carcinoma (HCC). Owing to the low incidence of deceased donation, living donor liver transplantation (LDLT) is the main method of liver transplantation for patients with HCC in Asia, but selection of candidates is critical to achieve good results [9]. Pamecha and colleagues, from Institute of Liver and Biliary Sciences, New Delhi, India present a retrospective experience of patients undergoing LDLT for HCC discovered either preoperatively or incidentally on explant pathology [10]. Of 611 LDLT performed over 8 years, HCC constituted 6.5% ( $n = 53$ ) of transplant activity (preoperative diagnosis in 40, and 13 detected incidentally). The median model for end-stage liver disease (MELD) score was

18 for patients with HCC. The 5-year survival was 85.4% and recurrence-free survival was 83.3% after a median follow-up of 35 months, which were comparable to LDLT for other indications (81.2% at 5 years). Risk Estimation of Tumor Recurrence After Transplant (RETREAT) score was best able to predict recurrence. The nuances of LDLT in HCC in an Indian population are discussed.

### Prevalence of liver injury in 445 patients of COVID-19: Single-Centre experience from southern India

Many Corona Virus Disease-19 (COVID-19) patients, particularly those with severe disease have experienced some form of liver injury [11]. Saithanyamurthi et al. from MIOT International, Chennai, India report a single-centre retrospective experience of liver injury from 445 patients admitted with COVID-19 in May 2020 [12]. Abnormal liver tests were defined according to American College of Gastroenterology (ACG) guidelines [13]. Aspartate aminotransferase was borderline elevated in 47.5%, mildly elevated in 11.2%, moderately elevated in 2% and severely in 0.7%. Alanine aminotransferase was borderline elevated in 28.7%, mildly elevated in 11.4%, and moderately elevated in 1.3%. Bilirubin and alkaline phosphatase were abnormal in only 19 (4.2%) and 15 (3.3%) patients, respectively. Patients with abnormal liver function test (LFT) were more likely to be symptomatic with both respiratory symptoms and diarrheal symptoms. Patients with abnormal LFT were more likely to have severe disease and higher mortality. Etiological mechanisms for COVID-19 induced hepatic damage are unclear but may have significant consequences in the management and prognosis of the disease and deserve further study.

### Comparison of the efficacy of growth factor collagen and antibiotic collagen on colon anastomosis in peritonitis abdomen

Advances in surgical technique have translated into better postoperative outcomes but anastomotic leak continues to challenge [14]. Collagen is the most important factor in anastomosis healing, which correlates with elevation in hydroxyproline levels. In this hypothesis generating study from Necmettin Erbakan University, Meram Medical Faculty, Konya, Turkey, the authors assessed tissue hydroxyproline levels biochemically assessing wound healing in three groups of seven Wistar albino rats - a control, fibroblast growth factor collagen (FGF-C) group, and the antibiotic collagen (AB-C) group [15]. After a surgical defect distal to the ileocecal junction, a primary anastomosis was performed 24 h later. The second group had the anastomosis line covered with a cover

containing FGF-C, and the third group by material containing AB-C. On the 7th postoperative day, the anastomosis burst pressure and tissue hydroxyproline levels were assessed. Vascular proliferation and fibroblastic activity appeared to be better in the second and third groups than in the control group. The authors concluded that FGF-C and AB-C may make anastomosis healing more reliable, especially in cases susceptible to infection due to anastomosis leak.

### **Current practices in the management of corrosive ingestion in children: A questionnaire based survey and recommendations**

Corrosive (caustic) material ingestion remains a major health issue, particularly in developing countries [16]. Accidental intake due to improper storage or lack of “child-proof” containers are most common reasons but the consequences of esophageal injury can be devastating. Bolia and colleagues from All India Institute of Medical Sciences, Rishikesh, India, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow, India, Deenanath Mangeshkar Hospital and Research Center, Pune, India and Kanchi Kamakoti CHILDS Trust Hospital, Apollo and SMF Hospital, Chennai, India report a questionnaire-based study of 98 gastroenterologists who had managed a total of 2600 corrosive ingestions in previous 5 years [17]. Majority considered performing a chest X-ray (83.3%) and endoscopy (79.7%) in the early (first 5 days) after ingestion. The majority (59.2% and 55%) used acid suppression in the early and later (6–21 days), 68% and 87% did not use steroid in early or later period. Antibiotics were used by the majority in either stage only when there was suspicion of either perforation or respiratory symptoms. Nasogastric (34%) or feeding jejunostomy (FJ)/total parenteral nutrition (TPN) (45%) was attempted only if oral feeding was not possible. The majority would wait at least 4 weeks before attempting endoscopic dilatation for corrosive strictures. The authors suggest an algorithm for management but the study also serves as a public health alert for urgent safety measures to prevent such occurrences.

### **Computed tomography features predictive of intra-abdominal hypertension in acute necrotizing pancreatitis: A prospective study**

The development of intra-abdominal hypertension (IAH) and abdominal compartment syndrome (ACS) in acute pancreatitis (AP) portend a poor prognosis [18]. Adding to the body of literature on the ability of contrast-enhanced computed tomography (CECT) to predict the presence of IAH/ACS, Verma et al. from Post Graduate Institute of Medical Education and

Research, Chandigarh, India present their experience of 37 patients with AP [19]. IAH developed in 54.05% of patients who also had a significantly higher bedside index of severity in acute pancreatitis (BISAP), Acute Physiologic Assessment and Chronic Health Evaluation II (APACHE) score, persistent acute lung injury (ALI), persistent acute kidney injury (AKI), persistent cardiovascular failure (CVSF), intensive care unit (ICU) stay, and mortality. Patients with IAH more commonly had moderate-gross ascites, pancreatic necrosis of > 50% and a “round belly sign” (RBS). On multivariate analysis, only RBS was predictive for IAH. The sensitivity, specificity, positive predictive value, and negative predictive value for RBS were 50%, 94.12%, 90.9%, and 61.54%, respectively.

### **Gastrointestinal protein loss in children with portal hypertension**

Portal hypertension may lead to gastrointestinal (GI) protein loss through increased pressure in lymphatic ducts [20]. Chindaratana et al. from Ramathibodi Hospital, Mahidol University, Bangkok, Thailand evaluated GI protein loss in children ( $n = 38$ ) with portal hypertension (aged 3 months–18 years) compared to healthy-age-matched controls. They also defined any changes after liver transplantation [21]. GI protein loss (assessed using fecal alpha-1 antitrypsin measurements) was noted in 4/38 children (10.5%) with portal hypertension and none in the controls ( $p = 0.11$ ), with no significant differences in the markers of severity of liver disease and serum albumin between patients with vs. those without GI protein loss. A small group of children (10.5%) with portal hypertension had notable GI protein loss, but this did not have a significant relationship with the severity of liver disease. In addition to the small sample size due to its relative rarity in children, the authors discuss other variables to consider in interpreting their results.

### **Eosinophilic gastroenteritis: Clinical characteristics and management**

Eosinophilic gastroenteritis (EGE) characterized by eosinophilic infiltration of the bowel wall, commonly affects the stomach and small intestine [22]. A myriad of presenting symptoms including abdominal pain, nausea, vomiting, dyspepsia, diarrhea, malabsorption and protein-losing enteropathy implies that a high index of suspicion is needed for a diagnosis. The hypersensitivity response appears to play a major role in its pathogenesis, as many patients have a history of seasonal allergies, food sensitivities, asthma, and eczema. Amruthesh. et al. from the Institute of Digestive and Hepatopancreatobiliary Sciences, Sakra World Hospital, Bangalore, India present their retrospective experience of 41

patients diagnosed with EGE over 4 years [23]. Abdominal pain was the most common presenting symptom. Peripheral eosinophilia was noted in 82.9% and duodenal lesions in 75% patients at endoscopy with 2 additional patients each diagnosed at jejunal and full thickness surgical biopsies. An excellent response to corticosteroid therapy was noted with a very low relapse rate. The authors describe diagnostic and treatment approaches in this case series.

### Compliance with ethical standards

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

**Disclaimer** The author is solely responsible for the data and the contents of the paper. In no way, the Honorary Editor-in-Chief, Editorial Board Members, the Indian Society of Gastroenterology, or the printer/publishers are responsible for the results/findings and content of this article.

### References

- Jalan R, Fernandez J, Wiest R, et al. Bacterial infections in cirrhosis: a position statement based on the EASL special conference 2013. *J Hepatol.* 2014;60:1310–24.
- Tapadia A, Jain M, Srinivas R, et al. Serum C-reactive protein and neutrophil to lymphocyte ratio as predictors of survival in cirrhotic patients with systemic inflammatory response syndrome and bacterial infection. *Indian J Gastroenterol.* 2021;40: <https://doi.org/10.1007/s12664-020-01134-8>.
- Leitsch D. A review on metronidazole: an old warhorse in antimicrobial chemotherapy. *Parasitology.* 2019;146:1167–78.
- Goel V, Jain A, Sharma G, et al. Evaluating the efficacy of nitazoxanide in uncomplicated amebic liver abscess. *Indian J Gastroenterol.* 2021;40: <https://doi.org/10.1007/s12664-020-01132-w>.
- Martens P, Nevens F. Budd-Chiari syndrome. *United European Gastroenterol J.* 2015;3:489–500.
- Asl AA, Lankarani KB, Nikeghbalian S, et al. Post liver transplant complications of Budd-Chiari syndrome. *Indian J Gastroenterol.* 2021;40: <https://doi.org/10.1007/s12664-020-01139-3>.
- Paspatis GA, Dumonceau JM, Barthet M, et al. Diagnosis and management of iatrogenic endoscopic perforations: European Society of Gastrointestinal Endoscopy (ESGE) position statement. *Endoscopy.* 2014;46:693–711.
- Dahale AS, Srivastava S, Saluja SS, et al. Management of scope induced type I duodenal perforations: over-the-scope clip versus surgery. *Indian J Gastroenterol.* 2021;40: <https://doi.org/10.1007/s12664-021-01152-0>.
- Mehta N, Bhangui P, Yao FY, et al. Liver transplantation for hepatocellular carcinoma. Working group report from the ILTS transplant oncology consensus conference. *Transplantation.* 2020;104:1136–42.
- Pamecha V, Sinha PK, Rajendran V, et al. Living donor liver transplantation for hepatocellular carcinoma in Indian patients—is the scenario different? *Indian J Gastroenterol.* 2021;40: <https://doi.org/10.1007/s12664-020-01138-4>.
- Metawea MI, Yousif WI, Moheb I. COVID 19 and liver: an A-Z literature review. *Dig Liver Dis.* 2021;53:146–52.
- Saithanyamurthi HV, Munirathinam M, Ananthavadivelu M. Prevalence of liver injury in 445 patients of COVID-19: Single-centre experience from Southern India. *Indian J Gastroenterol.* 2021;40: <https://doi.org/10.1007/s12664-021-01147-x>.
- Kwo PY, Cohen SM, Lim JK. ACG clinical guideline: evaluation of abnormal liver chemistries. *Am J Gastroenterol.* 2017;112:18–35.
- Meyer J, Naiken S, Christou N, et al. Reducing anastomotic leak in colorectal surgery: the old dogmas and the new challenges. *World J Gastroenterol.* 2019;25:5017–25.
- Yildirim MY, Çakır M, Findık S, et al. Comparison of the efficacy of growth factor collagen and antibiotic collagen on colon anastomosis in subjects with peritonitis abdomen. *Indian J Gastroenterol.* 2021;40: <https://doi.org/10.1007/s12664-020-01145-5>.
- Uygun I, Bayram S. Corrosive ingestion managements in children. *Esophagus.* 2020;17:365–75.
- Bolia R, Saarma MS, Biradar V, et al. Current practices in the management of corrosive ingestion in children: a questionnaire-based survey and recommendations. *Indian J Gastroenterol.* 2021;40: <https://doi.org/10.1007/s12664-021-01153-z>.
- Marcos-Neira P, Zubia-Olaskoaga F, López-Cuenca S, et al. Relationship between intra-abdominal hypertension, outcome and the revised Atlanta and determinant-based classifications in acute pancreatitis. *BJS Open.* 2018;1:175–81.
- Verma S, Rana SS, Kang M, et al. Computed tomography features predictive of intra-abdominal hypertension in acute necrotizing pancreatitis: a prospective study. *Indian J Gastroenterol.* 2021;40: <https://doi.org/10.1007/s12664-021-01149-9>.
- Levitt DG, Levitt MD. Protein losing enteropathy: comprehensive review of the mechanistic association with clinical and subclinical disease states. *Clin Exp Gastroenterol.* 2017;10:147–68.
- Chindaratana K, Tanpowpong P, Lertudomphonwanit C, Treepongkaruna S. Gastrointestinal protein loss in children with portal hypertension. *Indian J Gastroenterol.* 2021;40: <https://doi.org/10.1007/s12664-020-01079-y>.
- Sunkara T, Rawla P, Yarlagadda KS, Gaduputi V. Eosinophilic gastroenteritis: diagnosis and clinical perspectives. *Clin Exp Gastroenterol.* 2019;12:239–53.
- Amruthesh TM, Kini D, Yachha SK, Rao P, Shetty SS, Kumar V. Eosinophilic gastroenteritis: Clinical characteristics and management. *Indian J Gastroenterol.* 2021;40: <https://doi.org/10.1007/s12664-021-01160-0>.

**Publisher's note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.