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Covering the Cover

Use of probiotics as an adjuvant to sequential *H. pylori* eradication therapy: impact on eradication rates, treatment resistance, treatment-related side effects, and patient compliance

Helicobacter pylori (H. pylori) is a gram-negative bacterium and formally recognized carcinogen that colonized over half of the world's population especially the underdeveloped and developing countries. Therefore its eradication is a major health problem in the era we face to antibiotic resistance. Different antimicrobial regimens are being investigated to overcome the problem of antibiotic resistance and improve the eradication rates. In this issue of Turkish Journal of Gastroenterology, Çekin et al evaluate the effect of adding the probiotic *Bifidobacterium animalis subsp. lactis B94* to sequential *H. pylori* eradivation regimen that is 10-day treatment consisting of 5 days of PPI therapy with amoxicillin, followed by further 5 days of PPI with clarithromycin and metronidazole. They have enrolled 159 patients in a single center from Turkey and *randomly assigned them to treatment arms on a 1:1:1 basis as eradication-only (ERA-only) group,* ERA+probiotic group and ERA+placebo group. They have found significantly higher eradication rates in the ERA+probiotic group compared to the combined ERA (ERA-only and ERA-placebo) group (86.8% vs. 70.8%, respectively p=0.025). The non-compliance to treatment due to diarrhea development at the first week of therapy was significantly lower in the ERA+probiotic group than in the combined ERA (ERA-only and ERA-placebo) group (1.88% vs. 12.26% respectively, p=0.036). The treatment resistance (p=0.389) was similar between the groups. They have concluded that concomittant use of probiotic with sequential *H.pylori* eradication therapy is associated with a higher *H. pylori* eradication rate, less side effects, and higher treatment compliance. In fact the beneficial role of probiotics such as *Lactobacillus, Saccharomyces boulardii*, and *Bifidobacterium* to improve *H. pylori* eradication and reduce side effects during therapy have been shown in early studies though some other intriguing results also exist. The current study paves the way towards future *H. pylori* eradication regimens enriched with a probiotic.

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Ten-year analysis of hepatitis-related papers in the Middle East: a web of science-based scientometric study

This is an extra-ordinary study that has taken part in this issue of Turkish Journal of Gastroenterology. It brings qualitative and quantitative insights to life about the production of hepatitis related papers in the time frame from 2005 to 2014 in Middle East (ME) countries compared to the rest of the world. The authors have searched the Web of Science database using the word "hepatitis" in the title, abstract, or keywords, without any language limitation. Only 6,540 papers (6.34%) of all the hepatitis related publications in the world were from the ME countries. Turkey, Iran, Egypt, Israel, and Saudi Arabia were the top five countries among them. Most papers on hepatitis A, B, and D and autoimmune hepatitis were from Turkey, while the highest number of papers on hepatitis C were from Egypt. Obviously, ME region necessitates more high quality studies especially on viral hepatitis, since it is a prevalent health problem in this territory.

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Promotional effect of nonalcoholic fatty liver disease on Gallstone disease: A systematic review and meta-analysis

Both nonalcoholic fatty liver disease (NAFLD) and the Gallstone Disease (GD) are highly prevalent hepatic disorders in the general population resulting in significant financial burden. Prevalences of NAFLD and GD were reported up to 40 and 15 % of the general population respectively. Metabolic syndrome is the overlapping risk factor for both entities. Disturbed secretion of biliary cholesterol and gallbladder motility are the leading mechanisms for GD in obesity, diabetes and hypertriglyceridemia. In this issue of Turkish Journal of Gastroenterology, Shen et al perform a meta-analysis to assess the relationship between GD and NAFLD.

They have enrolled 39602 patients from 12 studies fulfilling their inclusion criteria for this meta-analysis. The pooled prevalence of GD among patients with NAFLD

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was 17% (95% CI: 0.12–0.23). When the prevalences of GD in the NAFLD group and the control group (non-NAFLD) were compared, there was a statistically significant association between NAFLD and GD, and OR was 1.40 (95% CI: 1.23–1.59). GD patients in NAFLD group were composed of more females (OR: 1.95, 95% CI: 1.36–2.79), were older (weighted mean difference (WMD) : 6.61, 95% CI: 3.80–9.42), and had higher body mass index (BMI) (WMD: 1.63, 95% CI: 0.62–2.65), compared to the NAFLD patients without GD. Although several studies in the past have reported that NAFLD may be associated with GD, it was unclear whether NAFLD is the prerequisite for the development of GD or if the presence of GD is the consequence of the components of metabolic syndrome. NAFLD is considered to as hepatic manifestation of metabolic syndrome. The study by Shen et al shows that the NAFLD patients are more likely to develop GD compared to the non-NAFLD group. In the NAFLD group they have found a significant association between the GD and the BMI among all the components of metabolic syndrome. Despite it remains unclear why the other features of metabolic syndrome were not associated with GD, the authors suggest to be cautious about the consequences of GD in patients diagnosed with NAFLD.

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Early prediction of organ failure under the revised Atlanta Classification

Acute pancreatitis (AP) is a common cause of emergency admissions and hospitalization. Because organ failure (OF) is the important complication of AP that may lead to mortality many classification systems and criteria have been proposed aiming to predict OF. While significant research has focused on OF in AP using different the risk assessment systems, an increasingly noisy environment for the clinicians have grown out to decide which classification system is the most appropriate in practice. In this issue of Turkish Journal of Gastroenterology, the study by Liu et al, aims to assess and compare the ability of laboratory markers and different scoring systems to predict OF and to differentiate the patients with transient and persistent OF. Revised Atlanta classification was used to define OF and its severity, unlike many of the preceding studies that utilized the older Atlanta classification. They have retrospectively reviewed the hospital records for AP diagnosis. The acute physiology and chronic health evaluation II (APACHE II), bedside index for severity in acute pancreatitis (BISAP) score within the first 24 h of admission, scoring of extrapancreatic inflammation on CT (EPIC), the modified Marshall system and WBC count, serum creatinin, blood urea nitrogen (BUN), lactate dehydrogenase (LDH), C-reactive protein (CRP), calcium (Ca), arterial partial pressure of oxygen (PaO_2), levels and base excess (BE) were evaluated in AP. This paper also provides a good insight about the current systems or parameters used to assess the severity and to predict the outcomes in AP. Their results, however, revealed no significant differences between patients with transient or persistent OF regarding any of those parameters mentioned above. Hypocalcemia, PaO_2 (PaO_2<60 mmHg), and BE were the independent predictors of all OFs while the rest of the markers had only low to moderate accuracy. The EPIC score had the highest accuracy for the early prediction of OF. Although the diabetes history and glucose levels were claimed to associate with OF in recent publications, no correlation with the presence of OF was observed in the current study. So, it seems, a good indicator to guess the chance for transient or persistent OF is yet available and designing new prediction scores is in the air.

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Colonic acute malignant obstructions: effectiveness of selfexpanding metallic stent as bridge to surgery

Acute malignant colonic obstruction is a debilitating condition in patients with colorectal cancer (CRC) and necessitates prompt intervention. As standard approach to those patients, American and European guidelines recommend a curative surgery by either a one-step method, with primary anastomosis, or the creation of a stoma and a subsequent recanalization namely Hartmann's procedure. Self-expanding metallic stent (SEMS) insertion as a bridge to surgery (BTS) can however be considered in elderly patients, with other comorbidities and poor activity scores. Thus the palliation provided by SEMS may help the patient to resolve the colonic obstruction and afterwords bridges an elective surgery usually via a single step primary anastomosis. Although two meta-analysis on malignant colonic obstruction, in 2012 and 2013 have reported the advantage of SEMS insertion and BTS over emergency surgery group (SG), the current study in this issue of Turkish Journal of Gastroenterology aims to highlight the superiority and safety of the use of SEMS as BTS. Additionally, the work provides a good general information on colonic metallic stent insertion. They have enrolled retrospectively 125 patients from a single center with malignant colonic obstruction who underwent emergency surgery (n=63) or stent insertion (n=62). In the BTS group, the average time of surgery after SEMS insertion was 5.1 ± 1.8 days. The complication rate at 6-month was significantly lower in the BTS group together with shorter mean hospital stay compared to the SG (6.1 ± 7.7 vs. 13.5 ± 3.0, $p<0.05$). No difference was observed in terms of end of 1 year complication rates. Additionally for the patients undergoing Hartmann's procedure, the recanalization rate was also higher (although not statistically significant) in BTS group than the SG. Eventually, the results by Consolo et al point that urgent surgery seems to have higher complication and mortality rates than elective surgery preceded by SEMS insertion in acute colonic obstruction in patients with CRC. Nevertheless, these findings need to be confirmed in prospective and randomized controlled trials.

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