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Greetings from Micro Labs limited. We are happy to bring you “**ENTERON**” which contains latest and interesting news in the field of Gastroenterology.

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Best Regards,

Medical Team, Micro Labs Ltd

Assessment of Changes in Salivary Biochemistry Associated with Helicobacter Pylori Positivity in Patients with Chronic Gastritis

Introduction:

Chronic gastritis (CG) is more common form of gastritis, variety of factors, including dietary practices, stress, the use of many drugs, improper dental hygiene, infection with *H. pylori*, as well as smoking and excessive alcohol use contribute to the chronic gastritis. The first fluid to come into touch with food, liquids, microorganisms, chemicals, and volatile is saliva¹ It is also indicated that the oral cavity plays an important role in the digestive process. Gastrointestinal disorders can affect oral tissue health and vice versa. It should be noted that the absence of changes in the oral cavity in diseases of the gastrointestinal tract is rare. Changes in the oral cavity can reveal such nosological forms of gastrointestinal tract diseases as chronic gastritis, gastroesophageal reflux or intestinal inflammation². Numerous systemic disorders may have their origins in oral homeostasis abnormalities, according to some research. The aim of this study is to evaluate the biochemical characteristics in the saliva of chronic gastritis patients (both HP+ and HP-) and compare these values to those observed in healthy people



Method:

A cross sectional study was conducted at Bahawal Victoria Hospital, Subjective symptoms, serological data, and endoscopic findings were used to find the disease activity in a total of 60 patients with chronic gastritis (44HP+ and 16HP-) from this research. Examines made use of unstimulated saliva and serum. Stool samples are tested for albumin, total protein, uric acid, and secretory immunoglobulin. To evaluate their efficacy, a biochemical analyser (Olympus AU 640) and an ELISA reader (an adaptation of the processes for oral fluid) was employed.

Results:

Patients are divided into two groups those who have tested positive for *Helicobacter pylori* antibodies and antigen, and those who have not. Study found that the HP + patient group had considerably higher mean secretory immunoglobulin A. (sIgA) levels in comparison to the HP and CG groups and Increased serum concentrations of IgA were seen as shown in It is possible that the function that sIgA plays in dropping the bacterial density and

protecting the gastric mucosa is the reason for increased amounts of sIgA in saliva. Although this subset is smaller than either the HP+ or CG subsets, they had a higher mean age and lower mean sIgA levels. However, we found that only UA had a correlation with both saliva and serum levels. It was shown that there was an inverse relationship between UA and endoscopic markers of inflammation.

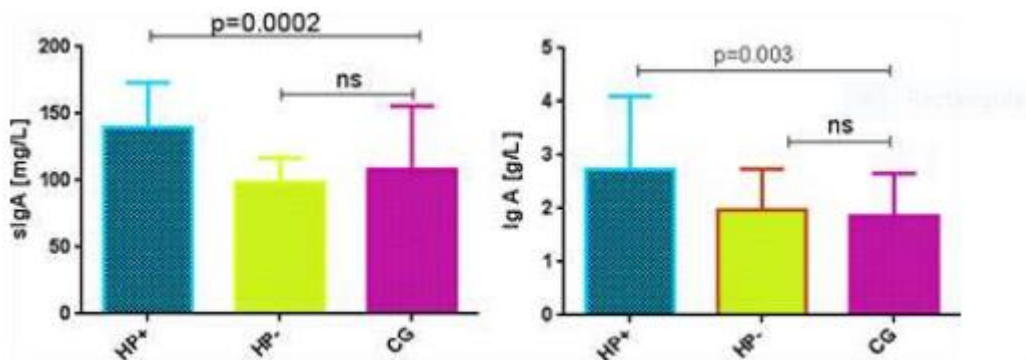


Figure 1 The Amount of Siga in The Saliva of Three Groups. 1B. Serum IGA in Groups with HP, Without HP, And as A Control

Discussion:

The salivary PH and flow rate in study were greater in study group than normal values in healthy control group, the pH value of unstimulated saliva is acidic which ranges between 5.75 - 7.05, it becomes more when the flow rate was increased and may reach a PH at high flow rate, in addition to the flow rate, the pH also depends on the salivary proteins concentration, phosphate (PO_4^{3-}) ions and bicarbonate (HCO_3^-) that have considerable buffering capacity for maintaining the PH level in saliva³.

Conclusion:

The study concludes that in patients with HP+ chronic gastritis, there are considerable changes in the characteristics of their saliva. Saliva is an excellent indicator of the pathological processes occurring in the digestive system, particularly in the case of HP+ infection.

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Evaluation of Epidemiological Assessment Of Non-Gastric Polyps, their Follow-Up And Treatment Strategy

Introduction:

Non-gastric upper gastrointestinal system polyps are identified rarely during upper gastrointestinal endoscopy. In which majority of lesions are asymptomatic and benign, some lesions have the potential to become malignant¹. Therefore, identifying gastric polyp risk factors are vital. Endoscopic appearance may give clue regarding the malignancy status of polyp, however histopathology examination is obligatory to dysplasia degree in which stratifying and assessing dysplastic degree of gastric polyp is essential². Early detection of premalignant or malignant gastric polyp lesion may lead to early management and cancer surveillance, therefore lead to better prediction. Study was aimed to evaluate the epidemiological distribution of polyps detected during esophagogastroduodenoscopy, (EGD) as well as the follow-up and treatment strategy.

Method:

A total of 127,493 patients who underwent upper gastrointestinal endoscopy were retrospectively screened. Among these patients, those who had polyps in the oesophagus and duodenum and biopsied were included in this study. Patients' demographic characteristics such as age, gender, smoking, history of comorbid diseases and drug use and Polyp sizes, polyp types, number of polyps and histopathological findings were recorded. In patients undergoing colonoscopy the cleanliness of the colonoscopy was estimated using the Boston Bowel Preparation Scale (BBPS). All statistical analyses were implemented using SPSS software.

Results:

A total of 248 patients who were evaluated for non-gastric polyps, results reveal that 194.52 non-gastric polyps per 100,000 patients. Esophageal polyp detection rate was 80.00 per 100,000, while the duodenal polyp detection rate was 114.52 per 100,000. 41.1% of the included patients were those with esophageal polyps and the most common type of polyps was squamous papilloma, followed by inflammatory papilloma. Polyps were observed in the duodenal bulb in 91 patients (62.3%) and in the second part of the duodenum in 55 patients (37.7%). In addition, colonoscopy was performed in 88 (%60.3) patients with polyps in the duodenum, and polyps were noticed in the colon in 35 (%24) of them. Esophageal adenocarcinoma was diagnosed in 6 individuals who underwent biopsies following the discovery of an esophageal polypoid lesion. Two of the individuals who were found to have duodenal polypoid lesions had a biopsy, which revealed duodenal adenocarcinoma.

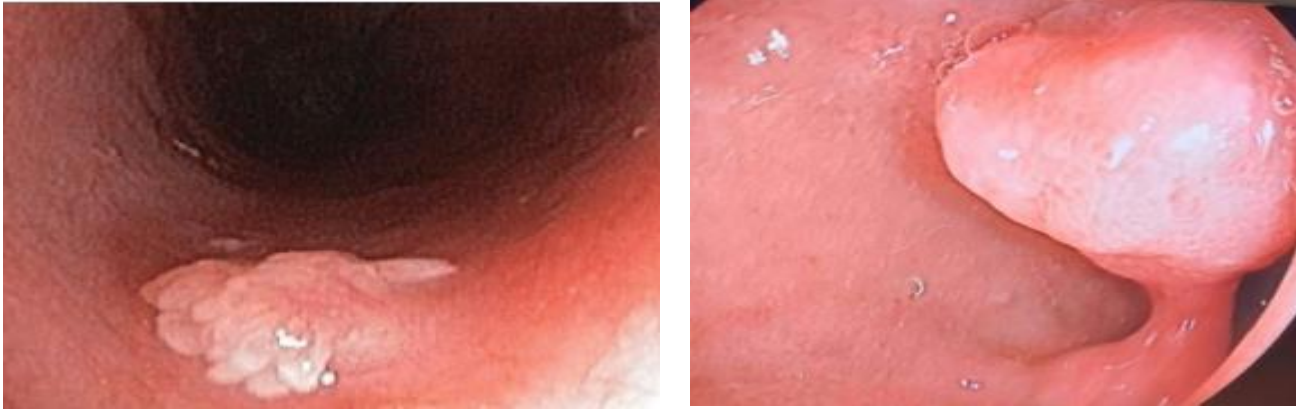


Figure 2 Esophageal squamous papilloma & Duodenal adenomatous polyp

Discussion:

Bulur et al. revealed that in total of 19,560 patients, non-gastric polyps found in 38 of them. In this study 127,493 patients were assessed, in which 248 non-gastric polyps were identified. Total evaluation revealed a detection rate of 194.52 non-gastric polyps per 100,000 patients.

Conclusion:

Study found that it is critical to recognize, monitor, and treat common lesions as well as less frequent but clinically significant lesions. This study provides clinical approach recommendations for these polyps and reveals the prevalence of these polyps in the general population

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A Systemic Review on the Effect of Gut-Training and Feeding-Challenge on Markers of Gastrointestinal Status in Response to Endurance Exercise

Introduction:

Nutrition during exercise is important in sustaining prolonged activity and enhancing athletic performance, however, exercise-induced gastrointestinal syndrome (EIGS) and exercise-associated gastrointestinal symptoms (Ex-GIS) are communal issues among endurance athletes¹. Physical exercise leads to gastrointestinal distress mainly when it is energetic and practiced in a hot environment without sufficient training and/or proper hydration. The mechanisms involved in exercise-related appetite control include three categories: long term, including leptin and insulin; intermediate, including a post absorptive signal related with macronutrient oxidation and short-term satiety signals rising from gastrointestinal tract in response to food intake². The aim of this study is to recognize and combine research that has investigated the impact of ‘gut-training’ or ‘feeding-challenge’ before and/or during exercise on markers of gastrointestinal integrity, function, and symptoms.

Method:

Total of Five databases were searched for literature that focused on gut-training or feeding-challenge before and/or during exercise that included EIGS and Ex-GIS variables. Quality assessment was conducted in duplicate and independently using the Cochrane Collaboration’s risk-of-bias tool. Participant Intervention Comparator Outcomes Study (PICOS) design format was used. The intervention for inclusion entailed supplementing with carbohydrate food, with or without other nutrients, during exercise in a structured and repetitive or feeding challenges conducted within 48 h before exercise. Other group was a comparator or control group consuming a placebo or carbohydrate in varying volume, texture, or nutritional density.

Results:

In total of 304 studies were identified, eight studies were included after screening. Gut-training or feeding-challenge interventions included provision of carbohydrates (n=7) only in various forms during cycling or running, or carbohydrate with protein (n=1) during intermittent exercise, over a diverse duration (4–28 days). Gut discomfort reduced by an average of 47% and 26% with a 2-week repetitive carbohydrate feeding protocol (n=2) and through recurrent fluid ingestion over five trials (n=1), respectively. Repetitive carbohydrate feeding during exercise for 2 weeks resulted in the decrease of carbohydrate malabsorption by 45–54%. Significant improvements in total, upper, and lower gastrointestinal symptoms were detected (n=2), as well as unclear results (n=4). No significant changes in gastric emptying rate (n=2), or markers of intestinal injury and permeability were established (n=3).

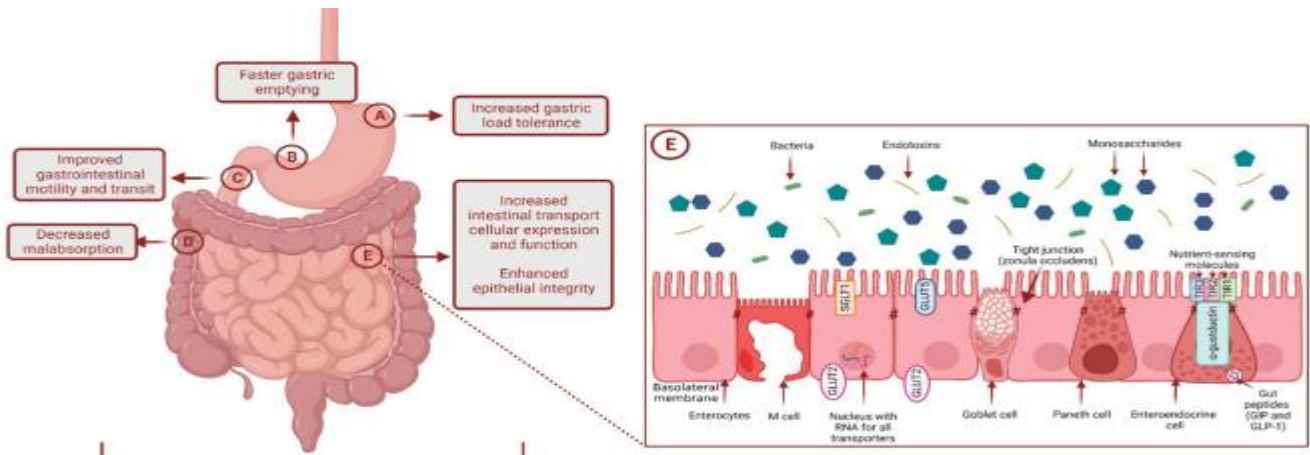


Figure:1 Mechanisms By Which 'Gut-Training' Or Repetitive 'Feeding-Challenge' May Provide Beneficial Outcomes In Gastrointestinal.

Discussion:

Results from the current SLR show that gut-training or feeding-challenge interventions did not enhance gastrointestinal integrity based on measures of plasma intestinal-fatty acid binding protein (I-FABP) concentration in three studies and plasma claudin-3 in one study. Disturbances in gastro-intestinal integrity are commonly measured using plasma/ serum I-FABP for intestinal epithelial injury, fecal calprotectin for intestinal epithelial inflammation, and fecal/ plasma claudin-3 for intestinal tight junction injury and/or dysfunction³.

Conclusion:

The study concludes that the potential adaptations from gut-training and feeding challenge around exercise may offer advantages in terms of supporting delivery of fuel to the muscles, managing Ex-GIS, and preventing clinical implications associated with EIGS.

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Potential adaptations from gut-training and feeding challenge around exercise may offer advantages in terms of supporting delivery of fuel to the muscles, managing ex-GIS, and preventing clinical implications associated with EIGS.

Gallstone ileus: A Case Report

Introduction: Gallstone ileus (GI) is termed as the occlusion of the intestinal lumen due to the impaction of one or more gallstones¹. Gallstone ileus is a relatively uncommon complication of cholelithiasis and a type of mechanical ileus involving impaction of gallstone in the intestinal tract. Gallstone ileus occurs in 0.15%–1.5% of cholelithiasis cases and <0.15% of ileus cases overall,^{1, 5} and the recurrence rate is 5%–8%². Gallstone ileus is headed by chronic gallbladder inflammation and the formation of adhesions to the duodenum, more commonly. This eventually leads to a biliary-enteric fistula development and passage of stones to the small bowel. Larger stones (>4–5 cm) become impacted in narrow areas of the gastrointestinal tract causing a mechanical obstacle. Surgery is the cornerstone of gallstone ileus treatment³. The aim of this study is to present a case of gallstone ileus with a successful surgical treatment.

Case Study

A 65-year-old-woman, with a history of diabetes mellitus, presented to emergency department with a chief complaints of biliary colic pain, vomiting, and acute abdominal pain for three days. Past history includes paroxysmal biliary colic pain during the last ten months. On examination, reveals that patient was afebrile and her vital signs were normal. She had a distended tympanic abdomen. Rectal examination presented diarrheal stools.

Laboratory data presented a white blood cell count of 11,500/ μ l and a C-reactive protein of 36 mg/dl with normal hepatic and renal functions. A computed tomography (CT) scan revealed signs of small bowel obstruction (SBO) due to a jejunal gallstone and She had pneumobilia due to a cholecysto-duodenal fistula. The diagnosis of gallstone ileus was retained.

To perform an emergency midline laparotomy after 3 h from admission was suggested which was performed by a 5-year-experience surgeon. As shown in figure 3 a dilated and ischemic jejunum with false membranes regarding the migrated gallstone was found. A jejunal resection with primary end-to-end anastomosis was performed. The patient was hemodynamically stable. To perform cholecystectomy and to close the cholecysto-duodenal fistula at the same operative time was decided. Patient was given with oral fluids on the third

postoperative day and patient was discharged after six days. Patient attended for follow up with no fresh complaints.



Figure:2 Pre-operative view & Intraoperative view of caecal volvulus

Discussion:

Patients present with symptoms of SBO and may have a history of recent episodes of biliary colic. CT scan is highly sensitive and specific for diagnosing GI, with sensitivity and specificity of 93 % and 100 %, respectively. According to this study, classical findings are pneumobilia and signs of SBO due to an aberrantly located gallstone⁴.

Conclusion: The study found that CT scan evokes the diagnosis with high sensitivity and specificity and usually, laparotomy is the method of choice. A case of gallstone ileus was successfully treated and reported.

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The patient was operated having aided from a resection of the mobile segment of the colon and stoma, with a good postoperative evolution.



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