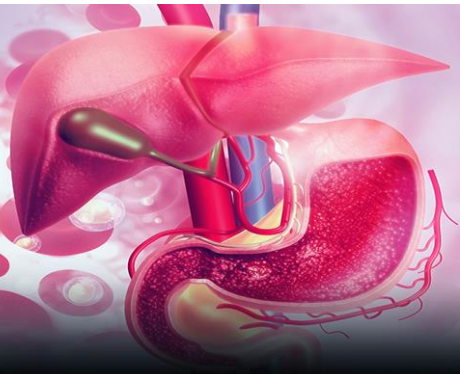


Enteron



Dear Doctor,

Greetings from Micro Labs limited.

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Should you require any specific article or medical information, please feel free to contact us at medicalsolutions@microlabs.in
Looking forward to your valuable feedback

Best Regards,
Medical Team, Micro Labs Ltd

Biotin may benefit IBD patients

According to a preclinical review, patients with inflammatory bowel disease (IBD) may benefit from biotin supplementation.

In mice, biotin supplementation postponed the initiation of colitis, reduced inflammation, and improved healing, University of California lead author Jonathan Skupsky, MD, and colleagues reported.

In cellular and molecular gastroenterology and hepatology, the investigators reported that the biotin deficiency is sometimes ignored in the environment of IBD and there were many records of biotin deficiency in IBD patients

In addition to these clinical studies, Dr. Skupsky and colleagues were inspired by their previous work, which found that sodium-dependent multivitamin transporter (SMVT) knockout for intestinal biotin absorption in mice resulted in intestinal inflammation and dysplasia, providing proof that IBD and biotin could be connected together.

For this research, the authors first compared mice who ate a biotin-deficient diet to those who fed a diet high for biotin. Within 7 weeks, mice without biotin produced alopecia and weight loss, and over time stool which was soft and red. At week 14, mice feeding the biotin-deficient feed, focused on elevated amounts of fecal calprotectin, had intestinal inflammation. In comparison, mice showed no gastrointestinal abnormalities while given a biotin-rich feed.

The authors reported that while no mouse model completely recapitulates IBD patients, this model reproduces many of the findings including weight loss, messy diarrhea, decreased fecal calprotectin, altered crypt construction, and mucosal and submucosal infiltration of neutrophils and lymphocytes.

During this experiment, drinking water was supplied to another group of mice with 3 per cent dextran sodium sulfate (DSS), which caused extreme colitis within 7 days. Such mice's distal colons had reduced the expression of SMVT, the biotin transporter. This finding was also observed in biopsy samples from patients with ulcerative colitis, suggesting a shared pathway. The investigators wrote that this raises the possibility that [the biotin transport pathway] could be a target for therapy.



Next the investigators checked the impact of the infusion of prophylactic biotin in mice obtaining 1.5 percent DSS in drinking water. Compared to mice that went without biotin, some that earned a week of treatment until the DSS test developed deferred, milder colitis, with histological results and amounts of fecal calprotectin approximating that of safe controls.

Two classes of mice were given DSS for 7 days, then water or water plus biotin in a related experiment. Those in the biotin community were improving quicker and more thoroughly, again with clinical and histological results similar to controls.

Such results indicate that biotin may be able to guard against colitis progression and accelerate recovery during early relapse, according to the investigators. Additional studies explore cellular processes and molecular pathways, eventually showing that biotin supplementation decreased NF-kappaB activation, contributing to decreased intestinal permeability and inflammatory cytokines. The authors reported that the precise mechanism(s) connecting biotin and NF-kappaB is unknown but could be regulated via the multiple cellular pathways influenced by the availability of biotins.

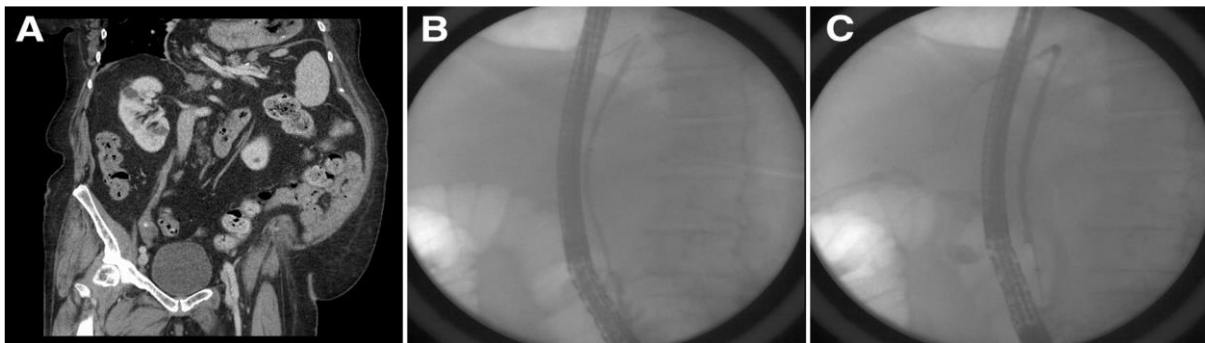
They acknowledged that IBD is a complicated disorder which may render it challenging to model the disease accurately; nevertheless, they also proposed that the results are sufficiently convincing to warrant further study in human patients as biotin could be a handy therapeutic add-on. The investigator said that they are hopeful that the evidence provided here would act as the foundation for prospective clinical trials to decide whether to use biotin supplementation as an adjunct therapy in IBD. Biotin is available over the counter, it is inexpensive and has limited side effects, making it a perfect treatment if clinical studies demonstrate comparable effectiveness to what we see in this preclinical model.



A rare Pancreatic Herniation through the Diaphragmatic Hiatus

CASE PRESENTATION

A Seventy-year-old female patient with a history of severe obesity and obstructive sleep apnea with abdominal epigastric discomfort, fatigue, uncertainty and jaundice. The temperature was 38.8 oC, 138/80 mm Hg blood pressure and 98 bpm heart rate. On abdominal inspection the patient had moderate tenderness in the epigastric region. Laboratory tests for leukopenia with a white blood cell count of 3.8 (reference range, 4–11,000/mL), 2.8 bilirubin, 140 U / L alkaline phosphatase, 194 U / L aspartate aminotransferase (reference range, 8–34 U / L), and 208 U / L alanine aminotransferase were important. Lipase became imperceptible. Examination with ultrasound revealed biliary dilation and the alleged choledocholithiasis.



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An irregular result (Figure A) was seen on simulated topography scan in the emergency room. Endoscopic retrograde pancreatography for ascending cholangitis was conducted. The biliary cannulation at 11 o'clock spot, utilizing the guidewire. Cholangiogram reveals the result in Figure B. Despite several tries, the duplicate guidewire cannulation attempted at various angles finally worked at 3 o'clock direction. During this attempt a cholangiogram was done (Figure C).

The computed tomography scan revealed pancreatic herniation of the pancreatic head, back, and remainder of pancreas body with slight biliary dilation and typical bile duct (CBD) stones in the hiatal hernia. The cholangiograms suggest Pancreatic and CBD transposition. The original guidewire trajectory on the original 11 o'clock course attempt was cephalad and seemed to be compatible with anatomy of the CBD. Contrast was inserted, and this was known as the pancreatic duct



instead of the bile duct (Figure B). Repeat guidewire cannulation attempted on the papilla at various locations and was finally effective at 3 o'clock.

A cholangiogram showed the CBD had an initial cephalad, then a sharp right lateral trajectory, and an aberrant transposition of the pancreatic duct and the CBD (Figure C). Endoscopic retrograde pancreatography was hampered by moderate pancreatitis, which healed with prudent treatment within 3 days. Despite few case reports in the literature, pancreatic herniation via the diaphragmatic suspension is exceedingly uncommon. Authors state there are no cases of endoscopic retrograde pancreatography in patients with herniated pancreas to their knowledge, and transposition between the pancreatic duct and CBD was not previously mentioned in herniated pancreas.

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Prevalence of GERD and PPI-Refractory Symptoms

INTRODUCTION

Gastroesophageal reflux disorder (GERD) includes the typical heartburn and/or regurgitation signs. This is a widely prevalent illness of major economic effects and loss of the standard of life correlated with the patient's wellbeing.

While there are many viable successful pharmaceutical and over-the-counter drugs, following care, 45 per cent of patients on a proton pump inhibitor (PPI) report chronic GERD symptoms.

There are little statistics in the United States on the incidence of the gastroesophageal reflux disorder (GERD). Given usage of proton pump inhibitors (PPIs), we performed a population-based analysis to assess the incidence of GERD symptoms and chronic GERD symptoms.

METHODS

a National Gastrointestinal Survey was performed using MyGiHealth, an app that directs participants through Patient-Reported Outcomes Measurement Information System surveys at National Institutes of Health. Primary outcomes were prevalence of GERD symptoms in the past and persistence of GERD symptoms (heartburn or regurgitation 2 or more days in past week) among participants taking PPIs. Population weights were applied to the data and multivariable regression was used to adjust for confounding.

RESULTS

Among 71,812 participants, 32,878 (44.1%) reported having had GERD symptoms in the past and 23,039 (30.9%) reported having GERD symptoms in the past week. We also found that 35.1% of those who had experienced GERD symptoms were currently on therapy (55.2% on PPIs, 24.3% on histamine-2 receptor blockers, and 24.4% on antacids). Among 3229 participants taking daily PPIs, 54.1% had persistent GERD symptoms. Younger individuals, women, Latino individuals, and participants with irritable bowel syndrome or Crohn's disease were more likely to have continued symptoms, even when taking PPIs.

Results of a Survey of 71,812 Persons in the United States





CONCLUSION

They found that GERD symptoms are very widespread in this large population-based sample of community-dwelling Americans, with 2 out of 5 having ever experienced these symptoms in the past and 1 out of 3 developing symptoms in the last week. We have observed an unequal distribution of GERD signs, as blacks, non-Hispanic white people, and those with comorbidities such as IBS, Crohn's disease, asthma, and endometriosis are more likely to be symptomatic, among others. We have observed that over half of those taking regular PPI therapy appear to suffer recurrent effects of heartburn and/or regurgitation. Owing to GERD's major effect on quality of life and its considerable economic burden, more work is required to further investigate such correlations, as well as to direct the creation of innovative therapies for those with PPI-refractory GERD symptoms.

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