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Best Regards,

Medical Team, Micro Labs Ltd

A study on assessing the relationship between irritable bowel syndrome and allergic disorders

INTRODUCTION

Irritable bowel syndrome (IBS) is a gastrointestinal (GI) illness characterized by changes in bowel habits and discomfort in the abdomen without apparent anatomical abnormalities. Several different gastrointestinal and non GI symptoms, such as indigestion, headaches, migraines, interstitial cystitis, and fibromyalgia, co-occur in IBS patients. Approximately 20% of the population is affected by allergy illnesses including allergic rhinitis (AR), asthma, urticaria, eczema, atopic dermatitis, and food allergies ⁽¹⁾. Respiratory, Skin, and gastroenterological symptoms as well as restricted daily activities are experienced by patients with allergic illness. Gastroesophageal reflux disease, rhinitis, sinusitis, anxiety, and depression are typical concurrent illness among allergy sufferers ⁽²⁾. Localized end organ dysfunction and even systemic signs and symptoms are possible effects of allergic disorder. Food allergies, bacterial overgrowth, alterations in the gut microbiota, inflammation, and environmental and genetic variables are all believed to have a role in the aetiology of IBS. The relationship between allergies and IBS's pathogenesis are still unclear. The aim of this study was to determine the prevalence of asthma, eczema, and allergic rhinitis in IBS patients as well as the link between these allergic disorders and IBS ⁽¹⁾.



Gastrointestinal Diseases

METHOD

This was a case-control study that included 300 IBS patients who had been referred to gastrointestinal clinics. Patients who met the Rome 1V criteria for IBS and were older than 5 years old were included. Patients with IBS formed the case group, and 300 healthy people without the condition formed the control group. On the basis of the outcome of the International Study of Asthma and allergies in Childhood (ISAAC) questionnaire, eczema, asthma, and allergic rhinitis were diagnosed in two groups. The frequency of asthma, allergic rhinitis, and eczema was compared between the two groups. Using SPSS software version 22, the data were examined. The Kolmogorov-Smirnov test was used to determine if data were normal. Chi-square tests were employed to look into the relationships between the qualitative variables.

RESULTS

The current study results showed that the frequency of asthma, allergic rhinitis and eczema was considerably greater in the IBS group ($P < 0.001$) than in people without IBS. It was shown that villagers were exposed to asthma 1.79 (95% CI: 1.093-2.945) more frequently than city dwellers. Additionally, exposure to smoke was known to significantly double the risk of allergy disorders. The risk of acquiring allergic rhinitis was found to be 2.87 (95% CI: 1.900-4.084) times higher in IBS patients. The risk of eczema was found to be increased in patients with IBS and female sex, which was found to be an independent factor. Based on contact with the animals, a strong correlation between IBS status and asthma was identified. Patients who had contact with tobacco had a considerably greater prevalence of asthma and allergic rhinitis than non-tobacco users. In addition, there was a

substantial correlation between the distribution of asthma among IBS patients and their place of residence (Table 1).

Groups		Patients with IBS (n=300)			Patients without IBS(n=300)		
Urbanization or rural living		Urbanization	Rural living	P-value	Urbanization	Rural Living	P-value
Asthma (n=110)	yes	43	43	< 0.001	12	12	0.085
	No	146	68		186	90	
Allergic rhinitis(n=167)	Yes	74	40	0.591	36	17	0.744
	No	115	71		162	85	
Eczema (n=110)	Yes	45	27	0.92	26	12	0.736
	No	144	84		172	90	

Table 1-Comparison of the frequency of asthma, eczema, and allergic Rhinitis among patients with and without IBS

DISCUSSION

The current study showed that IBS was significantly correlated with allergic disorder ⁽¹⁾. Similar to this study, Krishna MT et.al study showed that patients with allergic illness have a much increased long-term risk of developing autoimmune disorders ⁽³⁾. Nybacka et al. showed that 55% of individuals with IBS reported having atopic illness (eczema, asthma, rhino conjunctivitis, and pollen allergy) ⁽⁴⁾. The current study also showed that Asthma occurrence was significantly more common in the IBS group ⁽¹⁾. Similar to this, Kuenzig M et.al study showed that Crohn's disease and ulcerative colitis are more likely to occur in those who have asthma ⁽⁵⁾.

CONCLUSION

The current study concludes that IBS was found to be significantly correlate with asthma, allergic rhinitis, and eczema. Studies may be conducted to examine the effects of treating allergic disorders on the progress of IBS because the treatment of IBS mostly involves dietary changes.

Asthma, allergic rhinitis, and eczema were found to be significantly associated with Irritable bowel syndrome.

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A study on assessing the osteoporosis fracture influenced by Gastrointestinal disease in postmenopausal women.

INTRODUCTION

Osteoporosis(OP) is a systemic skeletal illness that is defined by low bone mass and microstructural degradation of bone tissue, increasing bone fragility and fracture risk as a result ⁽¹⁾. Postmenopausal women are susceptible to osteoporosis 5 to 10 years after menopause due to lack of estrogen and are more likely than men to experience osteoporotic fractures early in life ⁽²⁾. As a severe side effects of OP, osteoporotic fracture(OF) is marked by a high mortality and disability rate, which drastically lowers the patient's quality of life. Therefore, research into the causes of osteoporosis and osteoporotic fracture in postmenopausal women is required. Gastric cancer patients who underwent gastrectomy had a considerably greater chance of developing OP within 10 years. After gastrectomy, the prevalence of OP in older patients increased considerably, reaching 38.2%. It is considered that patients with inflammatory bowel disease (IBD) are more likely to experience bone mineral loss, which can lead to osteoporosis and an increased risk of fragility fractures. Numerous studies have been conducted on secondary OP and fragility fractures caused by gastrointestinal disorders. The aim of this study was to investigate how digestive disorders could affect the possibility of OF ⁽¹⁾.

METHOD

This was a retrospective study conducted on 1567 postmenopausal women. All participants were separated into two groups: 647 in the osteoporosis group (OP group) and 920 in the non-osteoporosis group (NOP group) for the purpose of analyzing the risk factors for osteoporosis based on the criteria for osteoporosis. For the purpose of data analysis, the OP group was split into two groups: 132 in osteoporotic fractures group (OF group) and 484 in no fracture group (NF group). Questionnaires provided the study with the necessary data. The medical histories of the individuals were recorded by asking about and reviewing their medical records which included information on OF hypertension, coronary heart disease, gastrointestinal disorders and knee osteoarthritis. The first to fourth lumbar vertebrae and the left femoral neck's bone mineral density (BMD) were measured by dual energy X-ray absorptiometry (DXA). The instrument manufacturer's reference range was used to calculate the T-score. The significance level for each two-sided statistical hypothesis test was set at 0.05.

RESULTS The current study results showed that participants in the OP group had a greater mean age than those in the NOP group, while heights, weights and menopause ages had considerably lower than those with out osteoporosis ($P<0.001$). Additionally, BMD in the OP group was noticeably lower than that in the NOP group ($P<0.001$). Among the 132 participants, 37 participants experienced spinal fractures while 13 had humerus fractures. There were 40 patients with ulna and radius fractures, 8 patients with hip fractures 25 patients with various lower limb fractures (including tibia, calcaneus, and so on) and 9 patients with multiple site fractures. Increased age was a risk factor for OP, increased height and weight may reduce the potential of OP, and the type of employment could also have an impact. In comparing OF group and NF group, the relationship between osteoporotic fractures and chronic illness was analysed. The study discovered through investigation that gastrointestinal disease could have an effect on the incidence of OF (Table 1). After adjusting, the OR for gastrointestinal disorders for OF was 1.583, $P=0.022$, showing that these disorders can considerably increase the chance of developing OF.

DISCUSSION

The current study showed that Femoral neck BMD in the group with osteoporotic fractures was considerably lower than in the group without fractures⁽¹⁾. Similar to this, Zhu X e.al study showed that the fractured group was older, had lower height and BMD than the unfractured group⁽²⁾. The current study also showed that gastrointestinal disease could have an effect on the incidence of OF⁽¹⁾. Similar to this findings, Merlotti D et.al study showed that secondary osteoporosis and development of OF are frequently induced by nutritional problems or irregularities in calcium phosphorus metabolism caused by gastrointestinal illness⁽³⁾.

CONCLUSION

The current study concludes that there was a strong link between gastrointestinal disorders and the development of OF, and even disorders that do not directly influence bone density can raise the risk of developing OF. In order to decrease the risk of adverse events outcomes patients with gastrointestinal illness should emphasize the health education of OP and OF”.

Variable	Osteoporotic fracture(n,%)	Osteoporosis without fracture(n,%)	χ^2	P-Value	Number of missing sample data
Hypertension					
No	83,19.6%	341,80.4%	2.876	0.237	1
No examination	5,20.0%	20,80.0%			
Yes	43,25.9%	123,74.1%			
Coronary heart disease					
No	115,21.2%	427,78.8%	0.819	0.664	0
No examination	5,17.9%	23,82.1%			
Yes	12,26.1%	34,73.9%			
Gastrointestinal disease					
No	68,18.4%	301,81.6%	4.920	0.027	0
Yes	64,25.9%	183,74.1%			
Knee Osteoarthritis					
No	69,22.5%	237,77.5%	1.361	0.506	1
No examination	35,18.4%	155,81.6%			
Yes	27,22.7%	92,77.3%			

Table-1 Comparison of the illness conditions that affected the osteoporotic fracture group the and group without fracture.

Patients with gastrointestinal illnesses should focus on health education of Osteoporosis and Osteoporotic fracture to lower the risk of adverse outcomes.

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A study on assessing the rate of cardiovascular events and safety outcomes after gastric bypass versus sleeve gastrectomy.

INTRODUCTION

Numerous metabolic conditions associated with obesity raise the risk of cardiovascular disease. The 2 most popular bariatric procedures performed today are laparoscopic sleeve gastrectomy (SG) and gastric bypass (GB), both of which result in long-lasting weight loss and a decreased risk of cardiovascular disease ⁽¹⁾. In a gastric bypass, the distal stomach and duodenum are bypassed, causing a loss of nutrients and limiting food intake with a formed gastric pouch. Although it poses a risk of major adverse outcomes, this surgery has become the most popular bariatric surgical method in recent decades. The less invasive bariatric treatment known as a sleeve gastrectomy, which removes the larger curvature of the stomach, has grown in popularity in recent years because of its ease of use and minimal risk of complications ⁽²⁾. In order to better assist patients in selecting the most suitable bariatric surgical technique, the study aimed to evaluate major adverse cardiovascular events (MACEs), problems necessitating revision surgery, and bariatric conversion surgery 7 years following gastric bypass (GB) and sleeve gastrectomy (SG) ⁽¹⁾.

METHODS

This was a retrospective cohort study conducted in 25,788 patients with obesity classified by the World Health Organization as Grade II or higher, 18 years of age or older, and hospitalized for either GB or SG made up the majority of the study group. A total of 20,316 patients underwent GB and 5472 patients underwent SG. The duration of hospitalization following a bariatric surgery served as the criteria for study inclusion and cohort entrance. A composite of cardiovascular events, including acute myocardial infarction (MI), ischemic stroke, cardiac arrest, and hospitalization for heart failure (HHF), that form the primary outcome is known as MACE. Immediate postoperative complications during the index hospitalization, in-hospital deaths, and all-cause readmissions 30 days after discharge were secondary short-term outcomes. Acute MI, ischemic stroke, cardiac arrest, HHF, hospitalization for dumping syndrome, revision surgery, bariatric conversion surgery, and psychiatric condition requiring hospitalization, including a suicide attempt, were secondary long-term outcomes.

Patients receiving GB were matched with patients undergoing SG on a 1:1 propensity score basis. Statistical significance was defined as two-sided P-values less than 5%. STATA, version 17.0, was used for all statistical calculations.

RESULTS

The current study results showed that the incidence rate of MACE among 5240 propensity score-matched pairs was 2.8 among patients receiving GB and 3.2 among those receiving SG (hazard ratio [HR], 0.92; 95% confidence interval [CI], 0.62-1.37). Nearly two-thirds of the patients were female, with a mean age of around 43 years old. In both groups, the average hospital stay was close to 5 days. Nearly 20% of all patients had T2DM, nearly 40% had hypertension, and around 66% of all patients had a body mass index greater than or equal to 40.0kg/m². MACE's individual components did not differ between the two groups. In comparison to patients after SG, those who underwent GB had a greater risk of long-term postoperative problems necessitating revision surgery (HR, 3.53 [95% CI, 2.78-4.49]). Compared to patients receiving SG, those undergoing GB underwent bariatric conversion surgery less frequently (HR, 0.09; 95% CI, 0.06-0.13) (Table 1)

Long-term outcomes	Matched Cohorts					
	Gastric Bypass (n = 5340)		Sleeve Gastrectomy (n = 5340)		Hazard Ratio (95% CI)	P
	n (%)	IR/1000 py	n (%)	IR/1000 py		
Primary outcome MACE	49 (0.92)	2.82	47 (0.88)	3.15	0.92 (0.62–1.37)	0.68
Secondary outcome						
Acute myocardial Infarction	20 (0.37)	1.15	22 (0.41)	1.47	0.79 (0.43–1.45)	0.45
Ischemic stroke	10 (0.19)	0.57	10 (0.19)	0.67	0.92 (0.38–2.22)	0.86
Cardiac arrest	10 (0.19)	0.57	10 (0.19)	0.67	0.88 (0.37–2.13)	0.78
Hospitalization for heart failure	15 (0.28)	0.86	8 (0.15)	0.53	1.58 (0.67–3.75)	0.30
Hospitalization for dumping syndrome	18 (0.34)	1.03	13 (0.24)	0.87	1.25 (0.61–2.55)	0.54
Revision surgery*	332 (6.22)	19.72	84 (1.57)	5.67	3.53 (2.78–4.49)	<0.001
Conversion surgery†	31 (0.58)	1.78	278 (5.21)	19.13	0.09 (0.06–0.13)	<0.001
Psychiatric disorder or suicide attempt needing hospitalization	250 (4.68)	14.80	188 (3.52)	12.88	1.18 (0.98–1.43)	0.09

Table 1-Primary and secondary long-term outcomes after propensity score matching.

DISCUSSION

The current study showed that no changes in the risk of MACE between patients who received GB versus SG during the 7 years of follow-up in patients with obesity ⁽¹⁾. Similar to this study, Aminian A et.al study showed that when compared to SG, GB may have a reduced risk of MACE in patients with obesity and T2DM. Particularly, there was no difference in risk between patients receiving GB and SG for the more prevalent 3-component MACE which includes all-cause mortality, acute MI and stroke ⁽³⁾.

CONCLUSION

The current study concludes that when compared to SG, GB did not have a different risk of developing MACE. Although GB patients had a greater likelihood of both short- and long-term problems, patients were more likely to have a bariatric conversion procedure after SG. This study strengthens earlier findings on the comparative effectiveness and safety of these 2 bariatric surgeries with reference to cardiovascular long-term outcomes.

In terms of cardiovascular long-term outcomes, this study supports earlier findings on the comparative efficacy and safety of these 2 bariatric procedures.

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A case report – Crohn's disease causes Wilson disease.

INTRODUCTION

Wilson disease(WD) is an uncommon autosomal-recessive illness. The inability of biliary copper excretion due to ATP7B gene mutation and ATP7B transporter protein inactivation in hepatocytes, which results in copper dynamic balance disorder, is its aetiology. Liver disease and mental conditions present the most frequent symptoms. Crohn's disease is a chronic gastrointestinal inflammatory condition that causes aberrant mucosal immune reactions and reduced epithelial cell barrier function. It is believed that intestinal bacteria, environmental factors, and genetic predisposition combine to cause CD. Abdominal discomfort, persistent diarrhea, weight loss, and fatigue in young individuals are typical clinical manifestations ⁽¹⁾. Inducing and sustaining remission is the major goal of biologic treatment for Crohn's disease. Ustekinumab, a completely human IgG1k antibody that inhibits the p40 component of interleukin-12 and -23, is the most recent biological to be approved for the treatment of Crohn's disease ⁽²⁾. It has been documented that WD can be complicated by ulcerative colitis, however it has not yet been reported that WD can be complicated by CD. This case report aimed to present a case of WD complicated by CD and explore the potential connections between the two illnesses ⁽¹⁾.

CASE PRESENTATION

A 16-year-old boy with recurrent mild fever, increased C-reactive protein(CRP) for 3 years, and an anal fistula for 6 months was admitted to the hospital. Due to poor liver function, the patient was given the diagnosis of WD at the age of 5. The diagnosis was based on the discovery of a heterozygous mutation of 3700de1G in exon 18 of the ATP gene, as well as alanine transaminase 277IU/L, aspartate transaminase 105 g/d, and ceruloplasmin 47.1mg. After 5 years of treatment, the patient's liver function recovered to normal after receiving oral doses of D-penicillamine and sodium dimercaptosulphonate alternately (every 3 months). The patient has been complaining for the past three years that low fever, weight loss, and laboratory abnormalities such as elevated CRP, elevated erythrocyte sedimentation rate, and elevated platelets-have persisted despite the patient's exclusion

of hematological disease, tumors, and tuberculosis. The patient's anal fistula first appeared six months ago. After anorectal surgery, the fistula was still not healed. After being admitted, the examination of the entire digestive system started. The multi-segmental wall of the small intestine was discovered to be significantly thickened by the abdomen enhanced CT, and the colonoscopy revealed no evidence of colonic mucosal inflammation or damage. Multiple segmental, longitudinal fissure ulcers were discovered in the small intestine during a capsule endoscopy. Finally, laboratory results that support the CD diagnosis include ASCA59.8 Unit (+reference value < 20.1), CRP57.6 mg/L, and calcitonin >1800g/g. Due to concerns about drug safety, medication mode, and privacy protection, the patient actively chose ustekinumab over infliximab. The patient received appropriate laboratory testing to rule out serious liver and renal damage, a tumor, an active infection, TB, hepatitis, and other illness before starting treatment. After receiving treatment, the patient's anal fistula progressively healed, his fever decreased, his CRP and erythrocyte sedimentation rate returned to normal, and his weight stabilized. No abnormal liver function was noticed when the patient was receiving partial enteral nutrition and ustekinumab maintenance medication. Eight months after starting therapy, CD and WD were assessed; the patient had gained 5kg, was in improved mental health. Reexamination of the small intestine using 3DCT and capsule endoscopy, however, continued to point to the existence of many longitudinal fissure-like ulcers and segmented wall thickening in the small intestine (figure 1). After 8 months of therapy, the patient's inflammatory activity was reduced in comparison to the time of diagnosis, however mucosal healing was not achieved. There were no abnormalities in the WD patient's liver, neurological system, renal, or eye exams. Finally, continued the Ustekinumab therapy and the original WD treatment.

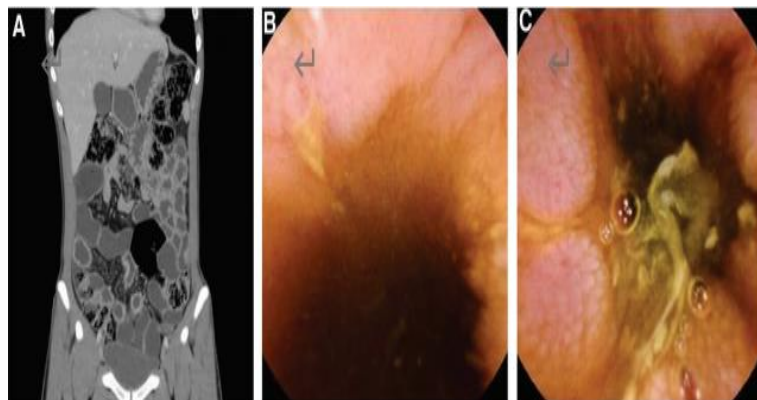


Figure 1-Evaluation of the small intestine using 3DCT and capsule endoscopy following 8 months of ustekinumab treatment for Crohn's illness. (A)The ileal wall segmentally thickened in the small intestine, with consistent thickness and noticeable enhancement, as shown on a 3D enhanced CT scan of the small intestine. (B and C) Multiple, segmental, longitudinal fissure-like ulcers can be seen in the small intestine during capsule endoscopy.

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DISCUSSION

The current study showed that Ustekinumab has been found to be both effective and safe in adult CD patients ⁽¹⁾. Similar to this study, Thomas P et.al study showed that treatment for Crohn's disease with Ustekinumab is efficient and well-tolerated ⁽²⁾. Dayan JN et.al study showed that Ustekinumab is safe and efficacious in pediatric IBD patients ⁽³⁾

CONCLUSION

The current study concludes that this was the first case reported about the WD complicated by CD. It is believed that WD-induced high copper levels cause CD attack, and that Copper Transporter 1 down-regulation and low serum ceruloplasmin levels may exacerbate CD. When WD is worsened by CD, ustekinumab may be an option

for therapy, especially in individuals with anal fistula. Additionally, it is effective and safe for use on kids. To establish ustekinumab clinical usefulness and safety in adolescents and young adults, further data from controlled clinical trials are necessary. The study believed that by raising awareness of the association between WD and CD, this example may help generate fresh approaches to treating this concomitant illness.

Ustekinumab may be an option for therapy, especially in individuals with anal fistula, when Wilson disease is worsened by Crohn disease. Additionally, it is effective and safe for use on kids.

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