Archives of Gastroenterology and Hepatology
ISSN: 2639-1813
Volume 1, Issue 2, 2018, PP: 16-19

Prevalence of Irritable Bowel Syndrome in Obese People

S. Oubaha[1], S. El Yazal[2], N. Bouznad[3], haraki. I[2], S. Jiddi[2], FE. Lairani[2], K. Najemeddine[3] Z. Samlani[3], Ansari[3], K. krati[2]

[1]Faculty of Medicine and Pharmacy, University Cadi Ayad, Marraksch.
[2]Department of Gastroenterology, CHU Mohamed VI, Marrakesh.
[3]Department of Endocrinology and Nutrition, CHU Mohamed VI, Marrakesh.
Soukainaelyazal@gmail.com

***Corresponding Author:** Soukaina El-Yazal, Department of Gastroenterology, CHU Mohamed VI, Marrakesh, Morocco.*

Abstract

Increased incidence of obesity is a worrying issue; some epidemiological studies highlight the relationship between obesity and all digestive functional disorders.

***The Aim:** object of our work is to study the prevalence of irritable bowel syndrome (IBS) in population suffering from obesity.*

***Materials and Methods:** this is a cross-sectional and descriptive study. A clinical questionnaire on functional digestive disorders (based on the Rome IV criteria) was filled in, interesting all obese people with a BMI> 30 Kg / m^2 admitted for the management of their obesity.*

***Results:** 94 patients were included, with a mean age of 41.2 years. 85.1% of patients had obesity at least in one member of their family, and 25.5% of these obese people had undergone a cholecystectomy. 38.3% of the patients had comorbidity. The average BMI of the patients was 40.9 kg / m^2, 74.4% had a BMI> 35 kg / m^2. IBS was present in 72 patients; it was constipation predominant in 22.2% of cases. However, It was unclassifiable in 47.2%.*

***Conclusion:** The prevalence of IBS is found in high percentage in our studied population, thus, IBS should be diagnosed and managed in obese person. Further studies are needed to establish the relationship between these diseases.*

Keywords: *irritable bowel syndrome, obesity, prevalence*

Introduction

Obesity is a dangerous phenomenon, spread all over the world. It is considered as a chronic disease which is threatening the public global health. It associated with an increased incidence of diabetes, hypertension, coronary heart disease, arthritis, sleep apnea and certain forms of cancer. Moreover, it impacts quality of life. Practically, obesity is usually defined based on body mass index (BMI). When BMI is greater than 30 kg / m^2 [1,2].

Irritable bowel syndrome (IBS) is the most common functional gastrointestinal disorder (FGID). At present, in the absence of disease markers, IBS diagnosis is symptom based, using the Rome criteria[3]

The aim of this work is to study the prevalence of IBS in the obese population, which could reveal a possible relationship between these diseases.

Materials and Methods

We included subjects which BMI is greater than 30 kg / m^2, who presented for management of their obesity, and this from July 2016 to July 2017.

Table 1. *Rome VI diagnostic criteria for IBS*

Recurrent abdominal pain on average at least 1 day/week in the last 3 months, associated with two or more of the following criteria:
1. Related to defecation
2. Associated with a change in frequency of stool
3. Associated with a change in form (appearance) of stool
Criteria fulfilled for the last 3 months with symptom onset at least 6 months prior to diagnosis

The diagnosis of IBS was based on typical clinical presentation, fulfillment of Rome VI criteria (table 1). Subtyping criteria was based on information from stool diary using the Bristol Stool Form scale (BSF).

We excluded subject with other GI disease(s) explaining the patient's symptoms, GI bleeding, weight loss or fever, severe heart disease, other severe disease(s) such as malignancy, kidney disease, or neurological disease; history of drug or alcohol abuse within 6 months prior to enrolment; severe psychiatric disease; or pregnancy at the time of the study.

All patients were not undertaking IBS medication during this period.

Results

A total of 94 patients were enrolled, Sex ratio [F / H] was 1.9, average age was 41.2 years (between 16 and 66 years). Obesity was more frequently found in women, 65.9% of women had obesity. 25.5% of patients had undergone cholecystectomy, 6.4% were thyroidectomized, and 6.4% had underwent a bariatric surgery. 85.1% of patients have at least one family member suffering from obesity. 38.3% of patients (N = 36) were diabetic, and 21.3% (N = 20) were followed for hepatic steatosis.

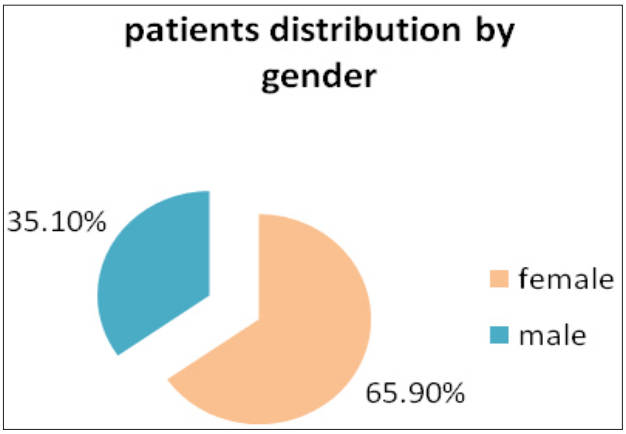

Fig 1. *patients distribution by gender*

The average BMI of patients was 40.9 kg / m^2 [28.3-62.3]. The average duration of obesity was 22.9 years. Obesity was secondary to a Cushing syndrome in a single patient.

IBS was present in 76.6% of patients (N=72), 38.9% had a BMI> 40 kg / m^2(figure 2). It was constipation predominant (C-SII) type in 22.2% (N=16), predominant diarrhea D-SII in 13.9% (N=10), alternating diarrhea constipation (M-SII) in 19.4% (14 cases) and nonspecific in 47.2% (N=34) (table 2). The IBS occurrence was different, it occurred before obesity in 16.6% patients (N=12), these were concomitant in 30.5% (= 22) and during obesity in 52.8%. (N=38).

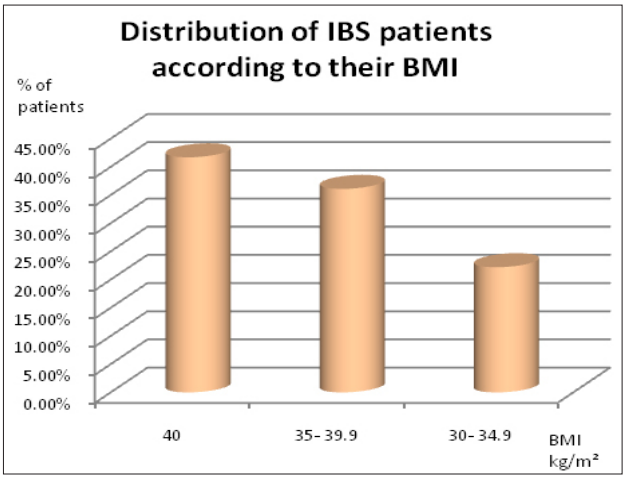

Fig 2. *distribution of IBS patients according to their BMI*

Table 2. *patients distribution accordingtheir IBS subtype*

IBS subtype according Bristol Stool Form Scale Le type de SII selon l'échelle de bristol	%
C-SII	22.2% (N=16)
D-SII	13.9% (N=10)
M-SII	19.4% (N=14)
Non spécifique	47.2% (N= 34)

Discussion

Obesity is a chronic diseaseimpacts seriously the quality of life and the increase in the incidence of several pathologies, especially cardiovascular and metabolic pathology [4].

IBS is the most common functional gastrointestinal disorder (FGID), characterized by discomfort or abdominal pain, and associated with a change in stool frequency or appearance. The physiopathology of this disease is still unknown [5]. it is responsible for an increased number of consultations and deterioration in quality of life.

The relationship between obesity and someFGID is very well established, such as gastro esophageal reflux disease [6]. Nevertheless, its relationship with IBS seems to be still unknown.

The prevalence of IBS in the general population is between 4% and 20%. However, the prevalence in obese subjects is estimated to be between 11 and 42% [7]. It has been observed that the prevalence and intensity of pain in this population increase after bariatric surgery [8].

Several mechanisms are suspected to explain the increased prevalence of IBS in obese subjects; On the one hand, the alteration of intestinal motility is evoked; animal studies find modification of gastrointestinal transit time in obese animals compared to their lean counterparts [9-10]. Human studies indicate these modifications, and may evoke that delayed colon transit is a plausible explanation for the symptoms of constipation and segmental motility disorders of the colon may explain diarrheal symptoms in obese patients with IBS [7, 11]. On the other hand, few studies support that diet, especially that low in fiber and high in carbohydrate is a factor that may contribute to the appearance of obesity and IBS symptom [7]. Furthermore, approximately 67% of people with IBS complain of food intolerance [12].

In addition, the modification of intestinal microbiota may explain the possible relationship between IBS and obesity. Bacterial development of the small intestine was found in 41% of obese patients who were candidates for bariatric surgery [13]. Moreover, it has been shown in some studies that some type of diet, especially that rich in fat (Western diet), has an influence on the gut microbiota and may be responsible for the symptoms of IBS in people suffering from obesity [14].

During IBS, some gut microbiota abnormalities were noted;the diversity of microbial population is reduced, the proportion of specific bacterial groups is altered and the degree of variability in the microbiota composition is different in IBS patients when compared with healthy subjects. In addition, a higher degree of temporal instability of the microbiota among IBS patients has been detected, Examples of these modifications are a decreased amount of Lactobacilli and Bifidobacteria along with an increased amount of aerobes relatively to anaerobes in IBS patients. Finally, mucosal bacteria have also been found to be more abundant in IBS patients than in healthy controls [15]. Therefore, further experimental studies should be done to investigate the role of fecal transplantation in the treatment of these two pathological.

Conclusion

Obesity seems to be a risk factor for IBS, however, further advanced studies are needed to explore and confirm this relationship.

References

[1] World Health Organization. Obesity: preventing and managing the global epidemic, in: WHO, Report of a WHO Consultation on Obesity (WHO/NUT/NCD/98.1), Genève, Suisse, 1998.

[2] A. Basdevant, L'obésité : origines et conséquences d'une épidémie, C. R. Biologies 329 (2006) 562–569

[3] Aziz et al. How the Change in IBS Criteria From Rome III to Rome IV Impacts on Clinical Characteristics and Key Pathophysiological Factors. *The American Journal of Gastroenterology* **volume 113**, pages1017–1025 (2018)

[4] Ng M, Fleming T, Robinson M, et al. Global, regional, and national prevalence of overweight and obesity in children and adults during 1980-2013: a systematic analysis for the Global burden of disease study 2013. Lancet 2014 ; 384 : 766-81

[5] P.Biclet ; les troubles fonctionnels intestinaux, EMC 2014 ; 9,1- p1-6. 6-0560 ;

[6] D.Béchade et al. Données actuelles concernant l'association de l'obésité au reflux gastro-oeso phagien et à ses complications. Gastro entérologie Clinique et Biologique (2009) 33, 155—166

[7] O.Pickett-Blakely. Obesity and Irritable Bowel Syndrome: A Comprehensive Review. Gastroenterology & Hepatology Volume 10, Issue 7 July 2014

[8] Clements RH, Gonzalez QH, Foster A, et al. Gastrointestinal symptoms are more intense in morbidly obese patients and are improved with laparoscopic Rouxen-Y gastric bypass. Obes Surg. 2003;13(4):610-614

[9] Moos AB, McLaughlin CL, Baile CA. Effects of CCK on gastrointestinal function in lean and obese Zucker rats. Peptides. 1982;3(4):619-622.

[10] Kiely JM, Noh JH, Graewin SJ, Pitt HA, Swartz-Basile DA. Altered intestinal motility in leptin-deficient obese mice. J Surg Res. 2005; 124(1): 98-103.

[11] Sadik R, Björnsson E, Simrén M. The relationship between symptoms, body mass index, gastro intestinal transit and stool frequency in patients with irritable bowel syndrome. Eur J GastroenterolHepatol. 2010;22(1):102-108

[12] Eswaran S, Tack J, Chey WD. Food: the forgotten factor in the irritable bowel syndrome. GastroenterolClin North Am. 2011;40(1):141-162.

[13] Madrid AM, Poniachik J, Quera R, Defilippi C. Small intestinal clustered contractions and bacterial overgrowth: a frequent finding in obese patients. Dig Dis Sci. 2011;56(1):155-160.

[14] . Kootte RS, Vrieze A, Holleman F, et al. The therapeutic potential of manipulating gut microbiota in obesity and type 2 diabetes mellitus. Diabetes ObesMetab. 2012;14(2):112-120.

[15] Eleonora Distrutti, Lorenzo Monaldi, Patrizia Ricci, Stefano Fiorucci. Gut microbiota role in irritable bowel syndrome: New therapeutic strategies. World J Gastroenterol 2016 February 21; 22(7): 2219-2241

Citation: **S. Oubaha, S. El Yazal, N. Bouznad, et al.** *Prevalence of Irritable Bowel Syndrome in Obese People. Archives of Gastroenterology and Hepatology. 2018; 1(2):16-19.*