Prevalence of constipation in a tertiary referral Italian Colorectal Unit

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INTRODUCTION: *Epidemiology data on constipation are not commonly available, particularly in Italy*
Here we review the prevalence and clinical features of constipated patients attending a tertiary referral Italian center.
METHODS: *Clinical data of patients attending our Coloproctology Unit in the last 15 years and complaining of constipation as the main clinical features were retrospectively analyzed. Rome-III criteria were adoptedto define constipation.*
RESULTS: *1041/11881 patients were affected by chronic constipation (8.8%), 376 had slow-transit constipation, 497 obstructed defecation and 168 both types of constipation. 76% of them were females. Patients distribution according to sex and age was Gaussian-like only in females. In the slow-transit group, constipation was idiopathic in 59.3% and secondary to other causes in 40.7% .*
In patients with anatomic obstructed defecation, rectocele and intussusceptions were the main findings, while pelvic floor dissynergia was the main finding in functional outlet obstruction, although more frequently all these components were associated. In 14.8% no apparent cause was identified.
CONCLUSION: *Constipation accounts for about 9% of patients attending a tertiary referral Colorectal Unit. Females were much more frequently affected in both types of constipation. Anatomic and functional defecatory disturbances are frequently associated, although in 15% no evident causes were identified.*

KEY WORDS: Constipation, Epidemiology, Obstructed defecation, Slow transit constipation

Introduction

Constipation is a functional bowel disorder characterized by persistently difficult, infrequent, or incomplete defecation affecting 2% up to 30% of general population, entailing high health care costs [1] and important impact on the patients quality of life [2]. Constipation has also been blamed to play a role in the development or in deteriorating of common anorectal diseases like hemorrhoids, fissures, solitary rectal ulcer and pelvic organ prolapse [3].

The prevalence of functional constipation is largely variable, and is strongly affected by the population sampling techniques and by diagnostic criteria adopted [4]. Population studies have been conducted in different countries, finding heterogeneous prevalence rates [5-9] probably reflecting different dietary regimen and heterogeneous sampling methods or poor uniformity of diagnostic criteria. Rome III criteria are now widely accepted in the literature for the definition of functional chronic constipation [10] making these epidemiological studies more reliable.

Constipation can be idiopathic (functional) or secondary to several conditions, such as neurological or endocrine

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disorders, psychiatric conditions, drug abuse, iatrogenic. Functional constipation is frequently multifactorial and recognizes two main types of mechanism: slow transit constipation (STC) and pelvic floor disorders; in a large amount of patient both mechanisms coexist [11].
Identification of the correct type and severity of constipation is of pivotal importance in its management [12], but epidemiological data on Italian population are still missing. In this study the prevalence of chronic constipation in patients attending a tertiary Coloproctology referral center was reviewed.

Materials and Methods

Clinical data of all patients attending our Coloproctology outpatient's clinic between 1994 and 2011 were retrospectively reviewed on prospectively maintained, IRB approved, computerized database (FileMaker pro™10 for Windows). Demographic and clinical features of patients complaining of chronic constipation as the leading disease and as the main reason for the Coloproctology visit, were retrospectively analyzed and classified in each category of constipation according to Rome III criteria. Patients complaining constipation underwent our diagnostic and therapeutic algorithm which largely corresponded to the last World Gastroenterology Organization Global Guideline [13] for constipation.
Patient evaluation consisted in taking medical history and physical examination. Medical history focused on the frequency of bowel movements, stool consistency, considered as a good indicator of colon transit by means of the Bristol Stool Form Scale [14] patient's description of constipation symptoms (bloating, pain, malaise, nature of stools, bowel movements, prolonged/excessive straining, unsatisfactory defecation), use of laxatives and frequency of defecations, general medical conditions, lifestyle, dietary fiber and fluid intake and use of suppositories or enemas. Physical examination consisted in general evaluation, anorectal digital examination and anoscopy.
A disease-specific scoring system (Agachan-Wexner score)[15] was administered in order to evaluate severity and characteristics of symptoms in a standardized way.
Where indicated, patients were addressed to second level tests on the basis of clinical findings and of lack of response to medical therapy (dietary adjustments and laxatives). Second level tests such as anorectal manometry, dynamic (colpo) defecography and colonic transit study, were performed in order to better classify patients in the appropriate type of constipation (slow transit, obstructed defecation, both). When constipation symptoms were associated with bloating, distension, pain relief after evacuation, malaise, alternate bowel habit, the diagnosis of an irritable bowel disease was established. On the other hand, in the presence of symptoms of alarm like evident or occult fecal bleeding, constipation of recent onset, tenesmus, iron deficiency anemia, age over 50 and hereditary-familiar risk for colorectal cancer, a colonoscopy was performed.
Once the diagnostic algorithm has been fulfilled the patients were classified into those with primary constipation from those with constipation secondary to anatomic causes or other diseases, that should be treated first, in order to treat constipation itself. Patients with symptoms of obstructed defecation were also divided in two classes: functional obstructed defecation (frequently related to pelvic floor dissynergia, descendent perineum, rectal hyposensitivity, rectal inertia) and anatomic obstructed defecation, generally caused by rectocele or intussusception. On the other side, slow colonic transit patients were classified in patients with primary constipation and patients with increased time of colic transit due to irritable bowel disease.
Patients complaining obstructed defecation symptoms (hard stools, need for excessive straining, use of digital help for evacuation, use of enemas) were studied with anorectal manometry and dynamic colpodefecography. Measurement of slow transit by radiopaque markers was not performed in patients complaining of one or more unsuccessful defecation/day, as it can be presumed that their colonic transit time is normal while their defecatory function was impaired [12-17].
Patient complaining of low frequency of defecation, poor perception of defecation stimulus, poor response to medical treatments, hard stool, without symptoms of outlet obstruction were studied for functional or secondary slow colonic transit defecation. Measurement of colonic transit time with radiopaque markers [18] is still the gold standard in these patients and, according to the literature [18], STC was defined as a mean colonic transit time longer than 72 hours.

Results

11881 patient attended our Colorectal unit in the last 15 years as outpatients, and 1041 of them (mean age 51 ± 18 years old) were visited because of constipation symptoms, with a prevalence of 8,8%. Constipation was largely more frequent among women, with a ratio M/F of 0,3.
The distribution of the patients according to the sex and age was Gaussian-like in females (higher frequency between 40-70 years old) while in males there was a uniform distribution in every class of age (Fig. 1).
Of 1041 patients complaining constipation, 376 had slow transit constipation (36%) and among them 83% were female. 497 patients (48%) had symptoms of obstructed defecation, with a 64% females, while 168 patients (16%) had both types of constipation associated (85% females) (Fig. 2). 8 patients were found to have colorectal cancer and were excluded by this analysis.
In patients with ODS, the predominant causes of out-

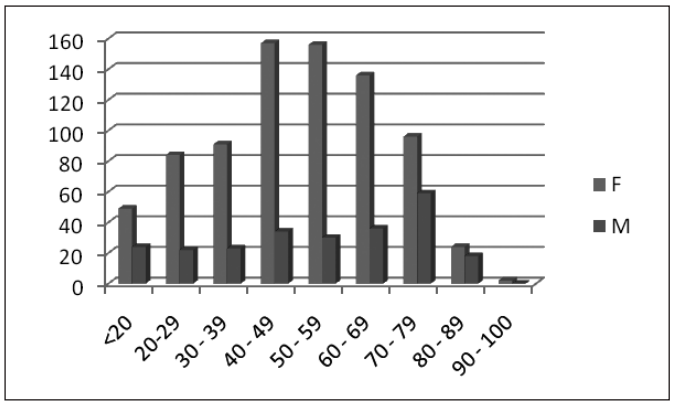

Fig. 1: Demographic distribution of constipation according to the age.

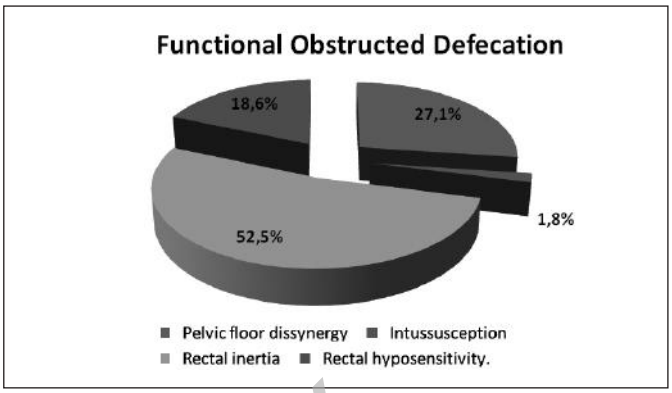

Fig. 4: Causes of functional obstructed defecation.

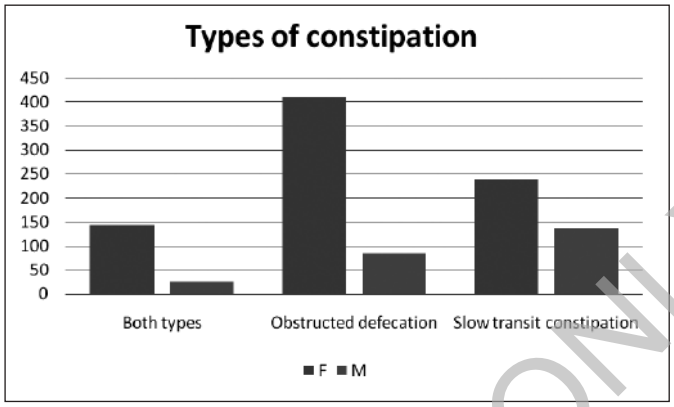

Fig. 2: Types of constipation and sex.

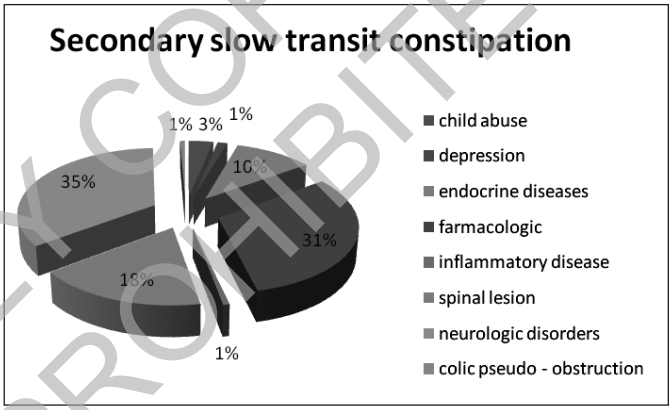

Fig. 5: Causes of secondary slow transit constipation in 153 patients.

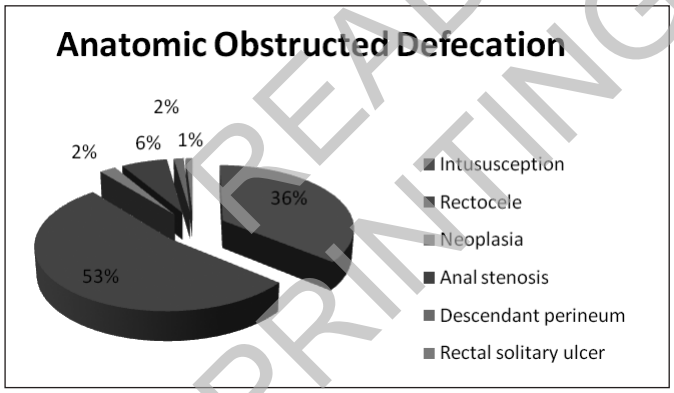

Fig. 3: Causes of anatomic obstructed defecation.

let obstruction were rectocele and intussusception (53% and 36% respectively) among the anatomic causes, while pelvic floor dissynergy (27,1%) and rectal inertia (52%) prevailed as functional causes of obstructed defecation(Figs. 3, 4).

In about 50% of patients with slow transit constipation the mean time of colonic transit was 102 h (range 42 - 144). In the group of slow colonic transit constipation, 223 patient (59%) had idiopathic slow colonic transit constipation, while in 153 patients a primary disease causing constipation was identified, and therefore this group was classified as "secondary constipation group" (Fig. 5).

Discussion

This study investigated a large group of constipated patients referred in the last 15 years to our outpatients clinic of Coloproctology showing that constipation is really a very frequent reason of complain accounting of about 9% of all patients attending a surgical Colorectal Unit: This data is even more important considering that in most of the cases constipation is a self-managed condition or a gastroenterologist area of interest more than a surgical one. This mean that most of patients attending our Unit belong to a selected group of severe constipation who did not succeeded with auto-medication or a first gastroenterological advice.

Another point of interest is that constipation is a self-reported symptom and that the lack of uniformly shared criteria before the introduction of the Rome criteria rep-

resented an important bias in the studies on prevalence published before 1999 [6]. As a consequence patients with IBS or other GI condition could have wrongly beenincluded in the category of functional constipation.
Nevertheless this study demonstrated that the prevalence of patients attending a colorectal surgical unit in South Italy because of constipation is in agreement with most of study population conducted in different world areas ranging between 2% and 34% [5-9,11,12]. Such a consideration, in adjunct to the observation that the majority of these patients have an anatomical defect (obstructed defecation caused by rectocele /intussusception) means that these form of constipation are independent of the dietary intake. Actually almost all our patients had a correct water and fiber intake in their Mediterranean-type diet, nevertheless their bowel movement remained rare or unsuccessful.
Pathophysiological studies on our patients showed that constipation due to outlet obstruction is the leading cause of severe constipation and this is in agreement with recent other studies [18]. In the cohort of patient affected by outlet obstruction, M/F ratio was remarkably lower than the cohort of slow transit defecation, indicating that OD is very common among women. However the higher prevalence of OD could be the result of a referral bias, since this form of constipation more often needs surgery instead of slow transit constipation. In other words since OD is more frequently suitable for surgical correction it is possible that its prevalence in a Surgical Unit could be overestimated when compared with slow transit. Nevertheless similar data are available also in gastroenterological units audits [20].
In these patients, the identification of the type of constipation and pathophysiology abnormalities underlying bowel dysfunction is of primary importance because while slow transit constipation could benefit of medical treatment, generally anatomic pelvic floor diseases like rectocele or intussusceptions may require surgery [20,21]. Moreover functional pelvic floor dysfunction can benefit of a biofeedback treatment [22, 23].

Riassunto

Dati epidemiologici aggiornati sulla prevalenza della stipsi cronica sono difficili da reperire in letteratura, soprattutto per quanto riguarda la realtà italiana. In questo lavoro si è valutata la prevalenza e le caratteristiche cliniche dei pazienti afferenti ad un Centro di riferimento di terzo livello di Coloproctologia.
I dati di tutti i pazienti afferenti alla nostra Unità di Coloproctologia con diagnosi di stipsi cono stati registrati in maniera prospettica all'interno di un database informatizzato e successivamente analizzati in maniera retrospettiva. La diagnosi di stipsi cronica è stata posta sulla base dei criteri diagnostici di Roma III.

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