



Original Article

# Manometric analysis of the influence of rectal content on anal pressures in chronically constipated patients



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## ARTICLE INFO

### Article history:

Received 8 October 2014

Accepted 2 February 2015

Available online 2 February 2015

### Keywords:

Constipation

Manometry

Rectal diseases

## ABSTRACT

**Objective:** The aim of our study was to analyze whether the presence of content in the rectum influences the anorectal manometry examination results in chronically constipated patients.

**Methods:** We evaluated 38 chronically constipated patients, 36 women and 2 men, with an average age of 53.55 years of age, all with a score above 10 on the Agachan Constipation Scoring System. All the patients underwent rectal preparation and then had the anorectal manometry examination without rectal content and after 5 min had it with a rectal balloon inflated with 200 ml of air in the rectum.

**Statistical analysis:** The statistical parametric paired-t test was applied in order to verify the difference in response between the groups after an intervention, adopting a significant level of 5% ( $p < 0.05$ ).

**Results:** The anal pressure was analyzed from the standard anal manometry examination and we found a statistically significant influence on the manometric results for the patients' average resting pressures, absolute average contractions, average contractions, evacuations, and sustained contractions in the functional anal canals.

**Conclusion:** The presence of rectal content influences the manometric values of average resting pressure, average absolute contraction, average contraction, evacuation, and average sustained contractions in the functional anal canal in the group of chronically constipated patients.

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<http://dx.doi.org/10.1016/j.jcol.2015.01.004>

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## Análise Manométrica da Influência do Conteúdo Retal nas Pressões Anais em Pacientes Cronicamente Constipados

### R E S U M O

**Palavras chave:**  
Constipação  
Manometria  
Doenças Retais

**Objetivo:** O objetivo deste estudo foi analisar se a presença de conteúdo no reto influencia os resultados do exame de manometria anorretal em pacientes cronicamente constipados. **Métodos:** Foram avaliados 38 pacientes cronicamente constipados, 36 mulheres e dois homens, com média de 53,55 anos de idade, todos com pontuação acima de 10 no Agachan Constipation Scoring System. Todos os pacientes foram submetidos a preparo retal e, em seguida, passaram por um exame de manometria anorretal sem conteúdo retal e, depois de transcorridos cinco minutos, um novo exame foi realizado, agora com um balão retal inflado com 200 ml de ar no reto.

**Análise estatística:** Na análise estatística, foi aplicado o teste t paramétrico, com a finalidade de verificar a diferença, em termos de resposta, entre os grupos após uma intervenção. Para tanto, foi adotado um nível de significância de 5% ( $P < 0,05$ ).

**Resultados:** A pressão anal foi analisada com base no exame de manometria anal de rotina; em nossos pacientes, foi observada influência estatisticamente significativa nos resultados manométricos para as pressões médias em repouso, contrações médias absolutas, contrações médias, evacuações e contrações sustentadas nos canais anais funcionais.

**Conclusão:** A presença de conteúdo retal influencia os valores manométricos da pressão média em repouso, contração absoluta média, contração média, evacuação, e contrações sustentadas médias no canal anal funcional no grupo de pacientes cronicamente constipados.

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## Introduction

Changes in bowel movements, such as constipation and fecal incontinence, are some of the most common gastrointestinal disorders in the general population, ranging in American adults from 15%<sup>1</sup> to 20%.<sup>2,3</sup> Among them, constipation is most prevalent, and can affect up to 27% of Americans.<sup>3-5</sup> The high frequency of this disorder, and its high cost, justify the importance given to the problem.

From a clinical standpoint, constipation is defined as a bowel alteration based on unsatisfactory evacuation, and it may be associated with an infrequent bowel movement, difficulty in passing stool, or both.<sup>6,7</sup>

The Rome III criteria defined functional constipation as occurrence of 2 or more symptoms for at least 12 weeks in the absence of structural explanation. The symptoms are unspecific self-reported symptoms, stool frequency of less than three bowel movements per week, gut transit time of more than 68 h, anal blockage, manual maneuvers to defecate, loose stools area rarely present without the use of laxatives and there are insufficient criteria for irritable bowel disease.<sup>8-11</sup>

In order to classify the prevalence and severity of the constipation, the Agachan Constipation Scoring System was used.<sup>12</sup>

Complete evaluation of chronically constipated patients should be based on a medical history and directed physical examination,<sup>13</sup> and in the most severe cases supplemented with specific anorectal physiology examinations.<sup>11,14</sup> Anorectal manometry is considered to be the most important of these examinations and provides detailed information

on the motor and sensory activities in the region being studied.<sup>4,5,15-18</sup>

International gastroenterology and coloproctology societies have standardized the methodology and interpretation of this anorectal manometry examination.<sup>15</sup>

Thus, considering the importance of this examination and reviewing the medical literature on anorectal manometry in chronically constipated patients, there remains the question of whether the presence of content in the rectum influences, or not, the examination results.

Cleaning of the rectum before manometry is especially important in chronically constipated patients, as the presence of large amounts of feces in the rectum may influence the positioning of the catheter.<sup>18</sup> Irrespective of these hypotheses, anorectal physiology services ignore this and perform rectal examinations without rectal preparation,<sup>11,19-22</sup> while others empty the rectal ampulla before the examination.<sup>2,5,18</sup>

Given this, and not having found in the literature any clear references to the importance or otherwise of pre-existing content in the rectum or prior preparation for anorectal manometry, we came up with this comparative study, in which we evaluated the examination in question with and without rectal content in chronically constipated patients. To simulate the presence of content in the rectum during the examination, we inserted an inflated rectal catheter balloon and compared it with the data obtained with the balloon deflated.

The objective of this paper, then, is to analyze whether the presence of known content introduced to the rectal ampulla influences the anorectal manometry examination results in chronically constipated patients.

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