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Original Article

Incidence of anismus in fecal incontinence patients evaluated at a Coloproctology service[☆]



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ABSTRACT

Introduction: Fecal incontinence is defined as a loss of bladder and bowel control. Anismus is characterized by a paradoxical contraction or inappropriate relaxation of pelvic floor muscles while trying to evacuate, being usually associated with constipation (60%). However, anismus can be present in 46% of patients with fecal incontinence.

Objective: To analyze the incidence of anismus in patients diagnosed with fecal incontinence in an outpatient Coloproctology Clinic of Paraná.

Methodology: A retrospective study of 66 patients diagnosed with fecal incontinence at Coloproctology Clinic, Hospital São Lucas, from February 2012 to October 2013. Patients were evaluated by clinical history and examination by anorectal electromanometry.

Results: The mean age of participants was 56 years. Regarding the evaluation by anorectal electromanometry, mean resting pressure, contraction pressure and sustained contraction pressure were, respectively, 35.18 mmHg, 90.53 mmHg and 58 mmHg. Anismus was seen in 42.42% of patients.

Conclusion: Through this study, it can be inferred that the incidence of anismus has a relevant impact on patients diagnosed with fecal incontinence. Our results corroborate the importance of the concomitant management of anorectal continence mechanism changes, in order to emphasize the clinical benefits and improved quality of life for patients with fecal incontinence.

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[☆] This study was conducted at Gastroclínica Cascavel and Faculdade Assis Gurgacz (FAG), Cascavel, PR, Brazil.

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Incidência de anismus em pacientes com incontinência fecal avaliados em um serviço de coloproctologia

R E S U M O

Palavras-chave:

Incontinência fecal
Assoalho pélvico
Manometria

Introdução: Incontinência fecal (IF) é definida como a perda do controle esfinteriano. O anismus caracteriza-se como contração paradoxal ou relaxamento inadequado da musculatura do assoalho pélvico durante a tentativa de evacuar, estando geralmente associado à obstipação intestinal (60%). No entanto, pode estar presente em 46% dos pacientes com IF. **Objetivo:** Analisar a incidência de anismus em pacientes diagnosticados com incontinência fecal em um ambulatório de Coloproctologia do Paraná.

Metodologia: Estudo retrospectivo envolvendo 66 pacientes com incontinência fecal diagnosticados entre fevereiro de 2012 e outubro de 2013. Os pacientes foram avaliados pela história clínica e pelo exame de eletromanometria anorretal (EMAR).

Resultados: A idade média dos indivíduos estudados foi de 56 anos. Quanto à avaliação da eletromanometria anorretal, as médias da pressão de repouso, de contração e de contração sustentada foram, respectivamente, 35,18 mmHg, 90,53 mmHg e 58 mmHg. Anismus foi evidenciado em 42,42% dos pacientes.

Conclusão: Através deste estudo, foi possível inferir que a incidência de anismus é relevante em pacientes diagnosticados com incontinência fecal, concorrendo assim para ressaltar a importância do manejo concomitante das alterações do mecanismo de continência anorretal, a fim de salientar os benefícios clínicos e a melhora na qualidade de vida dos pacientes com incontinência fecal.

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Introduction

Fecal incontinence (FI) is defined as the loss of sphincter control or an inability in delaying an evacuation in situations where the patient is not in a proper condition for such action, resulting in an unexpected loss of gas or liquid and/or solid feces.¹ Its exact incidence in the population is unknown, but is estimated that FI affects 0.1-18% of individuals. These figures undoubtedly are underestimations and, in part, this is due to patients' difficulty in reporting their clinical complaints.^{2,3}

This condition is considered as part of a complex etiopathogenesis and physiology. It is known that the mechanism of anal continence depends on an anal sphincter and pelvic floor muscles' integrated action,⁴ presence of recto-anal inhibitory reflex, rectal ability, sensitivity and compliance, stool consistency and bowel transit time.² Thus, conditions or diseases that change any of these mechanisms, with loss of physiological control of evacuation, may lead to a fecal incontinence status. Traumatic causes are most common; among them, obstetric injury is an important factor among women.⁵

The evaluation of an incontinent patient begins with a thorough medical history and physical examination.² Based on patient's clinical history, one should determine the degree of FI with the use of available grading scales, among which the most used is the Jorge-Wexner Fecal Incontinence Score.⁵ This score classifies incontinence from 0 to 20, based on the frequency of episodes of incontinence producing gas and liquid and/or solid stools, as well as on changes in quality of life, wherein each of these criteria are graded from 0 to 4 (1, seldom; 2, sometimes; 3, weekly; 4, daily).⁶

Alongside the medical history – the primary diagnostic method – the coloproctologist can use a series of anorectal exams that help to understand this condition. Among these, anorectal electromanometry (AREM), an important functional method for FI evaluation,⁷ stands out, considering that AREM measures rest and contraction pressures and functional anal canal size, capacity and compliance, as well as a survey of rectum-anal inhibitory reflex. Furthermore, AREM promotes an interpretation of the synchronization of sensitive and motor anal canal components.⁸

Thus, it is known that the anal sphincter function assessment is critical for a diagnosis and therapeutic approach for fecal incontinence; in this scenario, AREM is critical for this assessment.⁹

On the other hand, anismus, or pelvic floor dyssynergia, can be defined as a paradoxical contraction or inappropriate relaxation of pelvic floor muscles while the individual is trying to evacuate, or as an inadequate propulsive force.¹⁰ Anismus manifests itself as a failure in normal relaxation of pelvic floor muscles during defecation, and this can be assessed by an anorectal electromyography (AREM) test, defecography, nuclear magnetic resonance and dynamic anorectal ultrasound.^{11,12} This syndrome is usually associated with constipation,^{11,13,14} in which anismus can be found in 60% of these patients and, in contrast, in 46% of patients with fecal incontinence.¹⁴

According to Chiarioni et al.,¹⁵ the use of biofeedback is an important therapeutic procedure for management of fecal incontinence and pelvic floor dyssynergia. This is a noninvasive method for conservative treatment of fecal incontinence and anismus, in order to re-educate the patient's rectum-anal functions, training sphincter coordination and stimulating

normalization of rectal pressure functions and pelvic floor contractions.¹⁶

The success of this approach is attributed to the restoration of a normal defecation dynamics.¹⁷ Most studies on pelvic floor re-education therapy showed good efficiency, including improvement in rectal sphincter function and in rectal sensitivity, psychological improvement and a better quality of life for patients with FI and anismus.¹⁸

Objective

This study aims to analyze the incidence of anismus in patients diagnosed with fecal incontinency in an outpatient Coloproctology Clinic of Paraná.

Methodology

This is a retrospective study involving 66 patients with fecal incontinence that were clinically evaluated and had been diagnosed by Jorge-Wexner Fecal Incontinence Score⁶ at an outpatient Coloproctology clinic in the state of Paraná from February 2012 to October 2013.

The study included patients of both genders, aged between 18 and 75 years, with a Jorge-Wexner Fecal Incontinence Score >8. Then, selected patients were analyzed according to results of an anorectal electromanometry (AREM) test found in the clinic database. AREM was performed with the patient in left lateral decubitus, without previous rectal preparation, using a continuous water perfusion, 8-channel Dynamed eletromanometer. The examinations were performed by two proctologists (DL and GK). The pressures were measured along the length of the functional anal canal, using only the high-pressure and static traction zone. In the analysis of AREM results, the study endpoints included resting pressure (RP) (40–70 mmHg), contraction pressure (CP) (100–200 mmHg), sustained contraction pressure (SCP), rectosphincteric reflex (RSR) (present or absent), rectal sensitivity (10–50 mL), rectal capacity (180–300 mL) and skeletal muscle evaluation with straining (presence or absence of anismus). Presence of anismus was considered when the straining episode resulted in an increase of pressure of sphincter muscles in relation to resting pressure. All parameters were evaluated in a minimum of three times.

During the clinical history, presence of vaginal births and anorectal surgeries was also evaluated.

Patients who had a Jorge-Wexner Fecal Incontinence Score <8, patients with neoplasia, patients with prior or current history of radiotherapy, neurological disorders and presence of an inflammatory-infectious condition were excluded.

After an individual analysis of variables, patients were divided into 2 groups: Group 1 – patients with FI and with anismus; and Group 2 – patients with FI and without anismus. Then, resting (RP) and contraction (CP) pressures from AREM were compared between groups.

The information in this study was obtained in a confidential manner with respect to the period of patients' assessment and data analysis. Statistical analysis was performed by

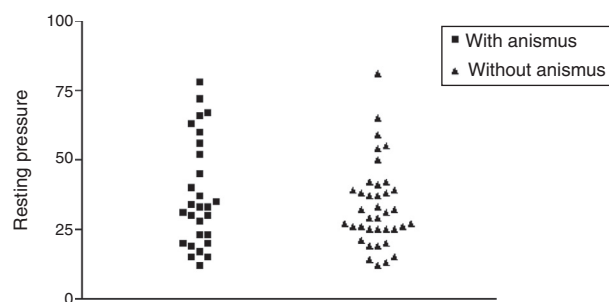


Fig. 1 – Comparison of RP means between groups of patients: FI with anismus × FI without anismus ($p = 0.4013$).

applying the Student's *t* test using Prism 5.0 platform for comparison of study variables. This study was submitted and approved by the Research Ethics Committee of Faculdade Assis Gurgacz through Plataforma Brasil, a nationwide, unified database (opinion number: 643 983).

Results

The studied group consisted of 66 patients diagnosed with fecal incontinence: 63 women (95.45%) and 3 men (4.55%) with a mean age of 56 (29–75) years. As to women, 56 (84.84%) had a history of vaginal birth and 13 (19.69%) underwent anorectal surgery.

As to the assessment of anorectal electromanometry (AREM), mean RP was 35.18 (12–81) mmHg; 3 patients (4.50%) presented with resting hypertonia and 47 (71.20%) with resting hypotonia. On the other hand, during CP evaluation, the mean for this variable was 90.53 (17–217) mmHg; 2 (3.03%) patients showed hypertonic contraction and 43 (65.15%) hypotonic contraction. SCP had a mean of 58 (16–157) mmHg.

Considering all participants, 65 (98.48%) patients exhibited rectosphincteric reflex and 1 (1.51%) did not show this reflex during AREM. Regarding rectal sensitivity, 10 (15.15%) and 2 (3.03%) patients, respectively, had values above and below normal values (50 and 20 mL). In rectal capacity evaluation, 7 (10.60%) and 17 (24.24%) patients, respectively, had values above and below recommended levels (300 and 160 mL). Anismus was evidenced in 28 (42.42%) of patients evaluated with fecal incontinence.

The mean resting pressures measured by AREM for patients with FI with *versus* without anismus were, respectively, 37 ± 19.29 and 33.37 ± 15.01 . When RP values of these groups were compared (Fig. 1), there was no statistically significant difference ($p = 0.4013$). The mean contraction pressures measured by AREM for patients with FI with anismus *versus* without anismus were, respectively, 99.39 ± 45.63 and 84.00 ± 48.15 . When CP values of these groups were compared (Fig. 2), there was no statistically significant difference in ($p = 0.8788$).

Discussion

Fecal incontinence (FI), defined as a loss of voluntary control of stools, is a major social problem,^{19,20} imposing limitations

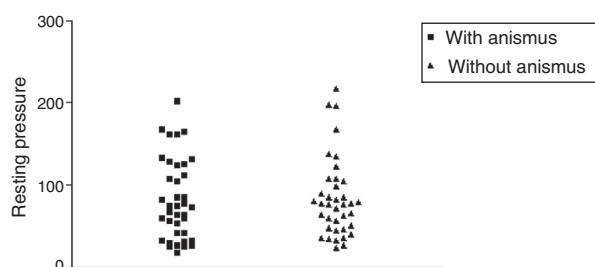


Fig. 2 – Comparison of CP means between groups of patients: FI with anismus × FI without anismus ($p = 0.8788$).

and resulting in lesser quality of life. Fecal continence is the result of a coordinated activity between the rectum and anal sphincters, and depends not only of these factors, but also of rectal sensitivity, intestinal transit time, stool consistency and rectal reservoir conditions.¹⁹

The pelvic floor dysfunction syndrome without anatomical changes, known as anismus, is characterized by the absence of relaxation or by a paradoxical contraction of pelvic floor muscles or spasms of elevator muscles of anus.²¹

This study aimed to analyze the incidence of anismus in patients diagnosed with fecal incontinence, considering that, notwithstanding the relationship between anismus and constipation,^{11,13,14} anismus can also manifest itself in other anorectal disorders. Thus, patients will obtain clinical benefits and an improved quality of life if the management of these changes in anorectal continence mechanism is addressed concurrently.

The incidence of anismus followed the trend published in the literature^{11,14}; the present study found a correlation between anismus and fecal incontinence in 42.42%, which agrees with the study of Schouten et al.¹⁴

Still in regard to the evaluation of anorectal electromanometry (AREM), the study showed that 71.20% of patients suffered from resting hypotonia and 65.15% showed hypotonia of contraction, corresponding to the findings in the study by Balsamo et al.,⁸ in which resting and contraction pressures are lower in incontinent individuals.

The need for a comprehensive approach of patients with fecal incontinence for pelvic floor disorders is based on a constant pursue for clinical improvement. According to Rao et al.,¹⁸ patients undergoing Biofeedback for anismus and FI treatment exhibited improved sphincter function and rectal sensitivity, psychological improvement and a better quality of life.

Thus, it can be inferred that the present study showed similar results to those available in contemporary literature, for instance, in the study by Schouten et al.,¹⁴ confirming the relevance of the diagnosis of anismus in FI patients, so that one can design an associated therapeutic plan aimed at re-education of pelvic floor muscles and optimization of clinical response.

Conclusion

Through this study, we can infer the importance of the incidence of anismus in patients diagnosed with fecal

incontinence; and that the detection of functional changes is important for the treatment of patients with FI, so they can be clinically benefited and get a better quality of life.

Conflicts of interest

The authors declare no conflicts of interest.

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