Original Article

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

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ARTICLE INFO

Article history:
Received 14 May 2014
Accepted 3 March 2015
Available online 27 May 2015

Keywords:
Fecal incontinence
Pelvic floor
Manometry

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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http://dx.doi.org/10.1016/j.jcol.2015.03.001
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Incidência de anismus em pacientes com incontinência fecal avaliados em um serviço de coloproctologia

RESUMO

Introdução: Incontinência fecal (IF) é definida como a perda do controle esfincteriano. O anismus caracteriza-se como contração paradoxal ou relaxamento inadequado da musculatura do assoalho pélvico durante a tentativa de evacuar, estando geralmente associado à obstrução 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, concordando assim para ressaltar a importância do manejo concomitante das alterações do controle do esfincter anal, a fim de salientar os benefícios clínicos e a melhora na qualidade de vida dos pacientes com incontinência fecal.

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normalization of rectal pressure functions and pelvic floor contractions.\textsuperscript{56}

The success of this approach is attributed to the restoration of a normal defecation dynamics.\textsuperscript{57} 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.\textsuperscript{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 Score\textsuperscript{1} 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 electromanometer. 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 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 incontinency: 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,\textsuperscript{19,20} imposing limitations
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.\(^{7}\) 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 pursuit 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.,\(^{15}\) 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.

**REFERENCES**