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Review Article

Study of defecation disorders in elderly patients

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ABSTRACT

Introduction: Defecation disorders, whether anal incontinence or chronic intestinal constipation, are frequent pelvic floor alterations in the general population and are more common in those with risk factors,*i.e.*, in the elderly, women with an obstetric background, and those with comorbidities, history of pelvic radiotherapy, diabetics, the bedridden, or those with history of orifice surgery, among others.

Objective: To analyze the incidence of defecation disorders in geriatric patients treated at the Medical Specialties Outpatient Service (MSOS) of Hospital Santa Marcelina.

Methods: Prospective, randomized study that interviewed the same patients in two moments: 1) subjective anamnesis through spontaneous history and 2) objective anamnesis with specific questionnaires to assess anal incontinence and chronic constipation.

Results: Between March 2016 and June 2017, 149 patients were analyzed, of whom 114 (76.5%) were female, with a similar mean age between genders; 51.67% had symptoms of anal incontinence and/or chronic constipation. Only 35.5% of patients with complaints of fecal leakage or flatus spontaneously reported them, while 87.1% of constipated patients did so. In the present study, no significant correlation was observed between the mode of delivery ($p = 0.106$), pregnancy ($p = 0.099$), and the number of deliveries ($p = 0.126$) with anal incontinence. In turn, there was no higher incidence of chronic intestinal constipation in females ($p = 0.099$) and most patients with this complaint had Bristol type 1 or 2 stools.

Conclusion: The incidence of defecation disorders in the geriatric population is high and, most notably, anal incontinence is not spontaneously reported by most patients.

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Estudo dos distúrbios da defecação em pacientes idosos

Palavras-chave:
Distúrbios da evacuação
Assoalho pélvico
Idosos
Incontinência anal
Constipação intestinal

RESUMO

Introdução: Os distúrbios da evacuação, seja a incontinência anal ou a constipação intestinal crônica, representam alterações do assoalho pélvico bastante frequente na população em geral e mais comumente naqueles com fatores de risco, ou seja, em idosos, mulheres com passado obstétrico, comorbidades, antecedente de radioterapia pélvica, diabéticos, acamados, história de cirurgias orificiais, dentre outros.

Objetivo: Analisar a incidência de distúrbios defecatórios em pacientes geriátricos atendidos no Ambulatório de Especialidades Médicas (AME) do Hospital Santa Marcelina.

Metodologia: Estudo prospectivo e aleatório com a entrevista do mesmo paciente em dois momentos: 1) Anamnese subjetiva através da história espontânea e 2) Anamnese objetiva com questionários específicos para avaliação de incontinência anal e constipação intestinal crônica.

Resultados: Foram analisados 149 pacientes entre Março de 2016 e Junho de 2017, sendo 114 (76,5%) do sexo feminino com média de idade semelhante entre os sexos; 51,67% apresentavam sintomas de incontinência anal e/ou constipação intestinal crônica. Apenas 35,5% dos pacientes com queixas de escape de fezes ou flatos relataram de forma espontânea e 87,1% dos pacientes constipados o fizeram. No presente estudo não se verificou correlação significativa entre via de parto p = 0,106, gestação p = 0,099 e número de partos p = 0,126 com incontinência anal. Por outro lado, não se verificou maior incidência de constipação intestinal crônica no sexo feminino p = 0,099 e a maioria dos pacientes com essa queixa apresentavam fezes ressecadas tipo Bristol 1 ou 2.

Conclusão: Incidência de distúrbios da defecação na população geriátrica é elevada e, notadamente a IA não é referida de forma espontânea pela maioria dos pacientes.

Introduction

Defecation disorders, whether anal incontinence or intestinal constipation, are frequent pelvic floor alterations in the general population and are more common in those with risk factors, *i.e.*, in the elderly, women with an obstetric background, and those with comorbidities, history of pelvic radiotherapy, diabetics, the bedridden, or those with history of orifice surgery, among others.[1,2]

Anal incontinence (AI) is defined as the involuntary and recurrent passage of feces or gas through the anal canal.[3–5] It is a multifactorial disorder with a significant impact on quality of life, due to its physical and psychological consequences,[6–8] and it is the second leading cause of institutionalization in the elderly population in the United States.[9,10] Its estimated incidence ranges between 2% and 7%,[5] and can reach up to 13.6% in individuals over 65 years[11] and 16.9% in those over 85 years. However, it should be noted that these data are widely underestimated,[12] since about 50% to 70% of patients with AI have never reported it to their physicians,[13,14] which makes the research on this condition extremely important.

In turn, intestinal constipation is one of the most common functional gastrointestinal disorders, with high prevalence in the population, affecting 16% of adults and 33% of those over 60 years of age,[15] notably females,[16,17] with a female to male prevalence of 2:1.[18] Furthermore, severe intestinal constipation, *i.e.*, less than two bowel movements per month, is practically exclusive to women.[19]

To identify and classify chronic constipation, the Rome III criteria[20] can be used to define constipation through a combination of objective (frequency of stools, manual maneuvers necessary for defecation) and subjective symptoms (dry stools, feeling of incomplete evacuation, and feeling of obstruction).

In a study conducted by the authors,[21] a higher incidence of constipation was observed in female patients (p = 0.002), without a statistically significant correlation with age (p = 0.576). Moreover, a substantial correlation was observed between reported or subjective constipation with the Rome III criteria, with a kappa value of 0.665.

Thus, with the progressive aging of the population, this subject has become more relevant due to the associated conditions. In this regard, data from the Brazilian Institute for Geography and Statistics indicate that, in 2050, the life expectancy of Brazilians at birth will be 81.3 years, the same as that of the Japanese population, and in that same year, the elderly population over 65 will reach 18%, equaling that of those under 14 years.[22] In the United States, the life expectancy of a 65-year-old woman is another 20 years, and the population over 85 years is expected to increase from five to 20 million between the years 2000 and 2050.[23]

Objective

To analyze the incidence of defecation disorders in geriatric patients treated at the Medical Specialties Outpatient Clinic (MSOC) of Hospital Santa Marcelina and to correlate the pelvic floor disorders with symptoms of depression in this age group.

Methods

This was prospective, randomized study carried out by interviewing patients at the Geriatrics and Gerontology MSOC of Hospital Santa Marcelina between March 2016 and June 2017. To collect data, the same patient was interviewed in two moments. In the first instance, a subjective case history was obtained through spontaneous history-taking; in a second analysis, conducted immediately after the first, a directed questionnaire was applied, objectively and directly addressing whether the patient referred symptoms of AI and/or constipation, with subsequent questioning of possible risk factors for both AI and constipation.

All patients over the age of 60 years that were attended to at the outpatient clinic during the referred period were included; those with intestinal diversion or who did not consent to participate in the research were excluded.

The analyzed data were as follows: sex, age, comorbidities, medications in use, body mass index (BMI), previous pelvic or orifice surgery, history of depression, history of smoking and alcohol use, defecation disorders (using the Rome III criteria), AI symptoms (using the Cleveland Clinic AI index), and stool consistency. In cases of female participants, the following obstetric data were collected: number of pregnancies, number of deliveries, number of abortions/miscarriages, routes of delivery, use of forceps, history of episiotomy, and highest fetal weight.

All patients signed an informed consent, and the study was approved by the Research Ethics Committee of Hospital Santa Marcelina with substantiated opinion number 3,308,394.

Statistical analysis

This was a descriptive study using means and standard deviations for quantitative variables; their qualitative distribution was assessed using the chi-squared test or Fisher's exact test when necessary.

All tests performed took into account a bidirectional α of 0.05 and a 95% confidence interval (95% CI), and were performed using IBM SPSS v. 23 and Excel 2010® (Microsoft Office).

Results

A total of 149 elderly patients from the Geriatrics and Gerontology MSOC of Hospital Santa Marcelina were randomly and prospectively analyzed between March 2016 and June 2017, 114 (76.5%) of whom were female; the mean age was 77.49 years in women (60–103 years) and 78.31 years in men (60–94 years). Of the total, 96.65% of patients had at least one comorbidity, and the mean BMI in men was 26.81 kg/m^2 (14.5–39.08 kg/m^2) in men and 27.33 (11.7–48.68 kg/m^2) in women.

Complaints of defecation disorders (symptoms of AI and/or intestinal constipation) were recorded in 77 patients (51.67%): 12 men (34.28%) and 65 women (57.01%).

Regarding the spontaneous report of fecal leakage and/or flatus, it was found that 64.5% of the patients did not report it, except when questioned directly; of the patients with symptoms of AI, 85.4% were female, occurring in 36% of the elderly women and 20% of the elderly men; this difference in incidence was not statistically significant ($p = 0.803$). In this group of patients, the minority (8.3%) had soft stools (Bristol 5, 6, or 7).

Moreover, of the women with symptoms of AI, 97.5% had vaginal delivery, while in those without this morbidity the percentage was 90.7% ($p = 0.106$). No statistically significant correlation was observed between pregnancy ($p = 0.099$) and number of deliveries ($p = 0.126$) with symptoms of AI.

When assessing the comorbidities in geriatric patients, it was observed that 75 individuals (50.33%) had diseases with potential risk factors for AI and, of these, 33% reported symptoms of AI. Moreover, 28.26% had associated symptoms of constipation.

In turn, 93.75% of patients who met the Rome III constipation criteria reported the symptom spontaneously, with a mean age of 78.87 years. Of these patients, 78.12% were women ($p = 0.099$) and 56.25% had dry stool (Bristol 1 or 2).

It was also observed that 42 patients reported some degree of depression (28.18%), with an incidence of 17.14% in men and 31.57% in women. Of these 42 patients, 40.47% had symptoms of AI and nine (21.42%) had intestinal constipation assessed using the objective Rome III criteria. When stratifying the referred symptom of depression to sex, 44.44% of women with depression had AI and 16.67% of them had intestinal constipation. In turn, 16.67% of men with depression had AI and 33.33% of them had intestinal constipation.

Discussion

The progressive increase in life expectancy worldwide and in Brazil, combined with other rising factors, such as obesity and diabetes mellitus, will lead to a greater incidence of pelvic floor disorders in the not-so-distant future, especially in patients with other risk factors for this morbidity (Table 1).

With advancing age, decompensated clinical conditions, such as diabetes mellitus, stroke, cognitive alterations, and impaired mobility, apparently have a more prominent influence on continence mechanisms, whether anal or urinary, than direct damage to the pelvic floor,[24,25] according to data presented here; the present study did not observe evidence of a significant correlation between parity and route of delivery with symptoms of fecal leakage and flatus.

Studies report the incidence of AI ranging from 7% to 12%[26,27] and, similarly to other studies in the literature,[1,28,29] the present study observed an incidence of elderly people with symptoms of high AI (30.87%). Also corroborating previous data, most patients do not report this symptom to their physicians spontaneously; in addition to other physical and emotional problems, this issue may lead them to isolation from social life.[3,13] Regarding the presence of AI symptoms in the elderly, the literature indicates an incidence

Table 1 – Incidence and epidemiological data of defecation disorders in the elderly (anal incontinence and constipation).

	Anal incontinence	Intestinal constipation
Incidence	30.87%	20.8%
Spontaneously reported symptom	35.5%	87.1%
Mean age	79.43 years (60–103 years)	78.87 years (65–96 years)
Mean BMI	27.08 kg/m^2 (11.7–48.68 kg/m^2)	27.18 (15.47–48.68)
Index	82.6% mild anal incontinence	90.32% > 2 Rome III criteria
Consistency of stool	8.69% Bristol 6 or 7	54.83% Bristol 1 or 2

of approximately 15% in the community, 18%–33% in hospitals, 38% in nursing homes, and between 50% to 70% in elderly institutions.[30–32]

Kang et al.[33] demonstrated a significant increase in the incidence of AI in people over 50 years ($p = 0.001$), without an important difference between men and women (6.2% *vs.* 6.8%; $p = 0.717$) and without a predilection for patients with diabetes ($p = 0.069$). There was also a statistically significant correlation, in general, between AI, more liquid stools ($p < 0.001$), irritable bowel ($p = 0.04$), and somatization of symptoms ($p = 0.001$). However, when comparing people older and younger than 50 years, the factors involved with a higher incidence of fecal leakage and flatus were consistency of the stools ($p = 0.002$), functional diarrhea ($p = 0.001$), functional constipation ($p = 0.025$), and somatization of symptoms ($p = 0.016$).

In Brazil, Lopes[34] demonstrated, in his Master Degree's thesis, an AI prevalence of 10.9% in the elderly attended to at a general geriatric outpatient clinic of the Hospital das Clínicas of the Faculty of Medicine of the University of São Paulo, while in the present study this incidence was 30.87%.

Regarding the coexistence of comorbidities with possible risk factors for defecation disorders, it was observed that 50.33% of the elderly had diseases that are potential risk factors for AI. Similarly, Troncon et al.[35] analyzed digestive symptoms in patients with diabetes and compared them with individuals without diabetes; those authors demonstrated a 16.9% rate of constipation in this population and a 4.5% rate of AI, but the difference in prevalence between groups was not statistically significant.

Furthermore, it is also noteworthy that 40.42% of patients with depression reported flatus leakage or staining of garments; 44.44% of women with depression had AI. Similarly, Wu et al.[25] observed an important association between this modifiable risk factor and AI, with an increase of up to five-fold; Matthews et al. also demonstrated this association, with a risk factor of 2.28.[24]

In turn, consistent with the literature data,[15,16,21,36] intestinal constipation was present in 20.8% of the elderly studied. Moreover, this symptom is more spontaneously reported by patients: an equivalence was observed between reported constipation and constipation verified through the Rome III criteria, as demonstrated in previous studies.[21,37] Regarding the association of constipation with depression, in the present study this correlation was observed in 16.67% and 33.33% of women and men, respectively. In this sense, Gomes et al.[36] found a relative risk of 1.96 for antidepressant consumption and constipation in females, with greater influence of one morbidity on another in women than in men ($p < 0.05$).

Finally, this study presents data that allow the authors to infer that age is in itself an important risk factor for pelvic floor defecation disorders, since there was no statistical significance nor a clear link between pregnancy, delivery route, and number of deliveries with symptoms of AI in the elderly. Furthermore, in this age group, unlike others, sex did not have a statistical influence on a higher percentage of constipation in females.

As a limiting factor of the study, it is noteworthy the fact that the study was conducted in a specialized outpatient clinic rather than in the general population; however, the methodology of the study and the interview method, which aimed to assess how the symptoms were naturally reported, makes it a valid warning to health professionals who work with the geriatric population.

Conclusion

The incidence of defecation disorders in the geriatric population is high, particularly AI; moreover, AI is not a condition that patients naturally report to their physicians. Therefore, it is imperative to be aware of the risk factors involved in these disorders in order to provide better care to these patients.

Conflicts of interest

The authors declare no conflicts of interest.

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