

Sarcopenia: a cause of external anal sphincter fatigability in an elderly man

İleri yaş erkek hastada eksternal anal sfinkter yorgunluğu nedeni olarak sarkopeni

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Sarcopenia, defined as loss of skeletal muscle mass and function, is associated with impaired quality of life in elderly age and may cause fecal incontinence. Herein we report an elderly man presenting with fecal incontinence due to external anal sphincter fatigability

Key words: Anal manometry, incontinence, anal sphincter

Sarkopeni, ilerlemiş yaşa bağlı kas kütlesi ve fonksiyonlarındaki azalmadır. Yaşam kalitesini etkileyen bir faktör olan sarkopeni, anal sfinkter fonksiyonlarında da azalma ve fekal inkontinense neden olabilir. Bu olgu sunumunda eksternal anal sfinkter yorgunluğuna neden olarak fekal inkontinens gelişmiş bir vaka sunulacaktır.

Anahtar kelimeler: Anal manometri, inkontinens, anal sfinkter

INTRODUCTION

Sarcopenia, defined as loss of skeletal muscle mass and function, is associated with impaired quality of life in elderly age (1). Accordingly, elderly persons are particularly susceptible to faecal incontinence (FI) due to ageing of neuromuscular system (2). FI is an important health burden on elderly patients and their families, nurses, physicians and health-care system (3). Polypharmacy and comorbidity plays an additional negative effect on anal sphincter dysfunction due to ageing.

External anal sphincter (EAS) is naturally subject to fatigue. Voluntary contraction failure of the EAS is an important factor in FI. The fatigue rate (FR) is a computerized system parameter to show the sustained voluntary contraction of EAS in anorectal manometry (ARM), considering the squeeze pressure and the EAS fatigability.

Although FR is thought to be a practical index to reveal the patients with anal sphincter dysfunctions, there is no enough data for elderly individuals. In this clinical case study we present a 62 year-old male patient. He had a complaint of fecal soiling although his anal sphincter resting pressure was normal.

CASE REPORT

The patient was a 62 years old man who suffered from fecal soiling. He stated that his stool pattern was mainly soft. He denied any neurological disease or past anorectal surgery. After taking informed consent, anorectal motility testing was performed. Manometry was done after an overnight fasting

by an expert motility nurse (Ms. H.A.). The motility catheter was placed while patient was in a left lateral position with the hips and knees flexed at 90 degrees throughout the procedure. A lubricated manometry catheter is placed into the rectum accurately with a stationary technique. The anorectal pressures (resting pressures of internal and external sphincter, squeeze pressure) were measured. Normal resting pressure is between 4070 mmHg, contributed 85% by internal anal sphincter and 15% by external anal sphincter. Rectoanal inhibitory reflex (RAIR) and rectal sensitivity volumes were also checked. Normal values for first sensation are between 1030 mL. Compliance range of 315 mL/mmHg was accepted as normal. The catheter was then removed. The manometric device used was MMS (medical measurement system) Solar GI gastrointestinal solid state manometry catheter.

His resting anal sphincter pressure was within normal range (i.e: 46 mmHg). EAS and IAS resting pressures were 65 mmHg and 18 mmHg, respectively. His rectoanal inhibitor reflex was intact (10 ml, 55%). He had normal first rectal sensation volume (30 ml) and compliance. Nevertheless, he could not sustain the anal pressure in long squeeze. His FR was -0.83. mmHg/s.

DISCUSSION

Based on the above-mentioned data of our patient, anal sphincter pressures were adversely affected in elderly age. The patient did not have any neurological disease or colorectal surgery that might cause anal sphincter dysfunction.

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EAS is important in faecal continence and may be susceptible to fatigue in elderly men due to sarcopenia. Nevertheless, fatigability is not routinely measured in anorectal examinations.

Several studies state conflicting results regarding the fatigue rate of EAS (2-5). Nockolds et al. stated that females with anal incontinence have a weaker but more fatigue-resistant EAS compared to women with constipation. This difference was proposed to be linked with presence of higher proportion of slow-twitch muscle fibres (3). We propose that the different results are likely due to different pelvic floor anatomy of women and men. No doubt, further studies are necessary to clarify this issue. Nevertheless, new studies on muscle fibers (slow twitched and fast twitched) should be gender and age specific.

Herein, the issue of concern is underestimation of subclinical faecal incontinence of elderly individuals. Therefore, long-term personal and social problems due to mild incontinence in elderly patients often go unrecognized.

In conclusion, anal incontinence should be considered as an adverse effect of ageing due to sarcopenia in elderly with otherwise normal resting anal sphincter pressure. It should not be underestimated and motility study should be done even if subclinical FI has been suspected in elderly. Also, long squeeze pressure recording is necessary in elderly patients even if the resting pressure is normal. Further studies are necessary to clarify the impact of age and gender on anal continence problems. Finally, new studies regarding geriatric sarcopenia should address anal sphincter dysfunctions.

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