Journal of Coloproctology

www.jcol.org.br

Original Article

Clinical, functional and morphologic evaluation of patients undergoing lateral sphincterotomy for chronic anal fissure treatment. Identification of factors that can interfere with fecal continence

Graziela Olivia da Silva Fernandes[a,*], *Sthela Maria Murad-Regadas*[b], *Francisco Sérgio Pinheiro Regadas*[b], *Lusmar Veras Rodrigues*[b], *Iris Daiana Dealcanfreitas*[c], *Jacyara de Jesus Rosa Pereira*[d], *Erico de Carvalho Holanda*[e], *Francisco Sérgio Pinheiro Regadas Filho*[f]

[a] *Service of Coloproctology, Hospital Universitário Presidente Dutra, Unifersidade Federal do Maranhão (UFMA), São Luís, MA, Brazil*
[b] *Department of Surgery, Universidade Federal do Ceará (UFC), Fortaleza, CE, Brazil*
[c] *Service of Coloproctology, Hospital Regional do Cariri, Juazeiro do Norte, CE, Brazil*
[d] *Service of Coloproctology, Hospital Universitário, Universidade Federal do Piauí (UFPI), Teresina, PI, Brazil*
[e] *Service of Coloproctology, Santa Casa de Misericórdia de Fortaleza, Fortaleza, CE, Brazil*
[f] *Service of Coloproctology, Hospital São Carlos, Fortaleza, CE, Brazil*

ARTICLE INFO

Article history:
Received 12 March 2014
Accepted 19 May 2014
Available online 2 July 2014

Keywords:
Chronic anal fissure
Lateral internal sphincterotomy
Anorectal manometry
Anorectal three-dimensional ultrasound

ABSTRACT

Objective: Evaluate clinical, functional and morphologic outcomes of lateral sphincterotomy for chronic anal fissure treatment, and correlate the findings with factors that influence in the anal continence.

Method: In a prospective study, female patients treated by lateral sphincterotomy for chronic anal fissure were assessed using Wexner's incontinence score and grouped according to score: group I (score = 0) and group 2 (score ≥1) and evaluated with anal manometry and anorectal 3D ultrasonography.

Results: Thirty-six womens were included, 33% had vaginal delivery. Seventeen patients were included in group I and 19 in group II. We found no difference in age, parity and mode of delivery between groups. A significant difference with respect to percentage reduction in resting pressures was noted, when comparing group 1 versus group 2. The anal sphincter muscle length was similar in both groups. However, the length and percentage of transected internal anal sphincter was significantly greater in group II.

Conclusion: There was a correlation between fecal incontinence symptoms after sphincterotomy with the percentage of resting pressure reduction, length and percentage of transected internal anal sphincter.

* *Corresponding author.*
E-mail: grazielafernandes@gmail.com (G.O.d.S. Fernandes).
http://dx.doi.org/10.1016/j.jcol.2014.05.006

Avaliação clínica, funcional e morfológica de pacientes submetidas à esfincterotomia para tratamento da fissura anal. Identificação dos fatores que podem interferir na continência fecal

Palavras-chave:
Fissura anal crônica
Esfincterotomia lateral interna
Manometria anorretal
Ultrassonografia anorretal tridimensional

RESUMO

Objetivo: Avaliar os resultados clínicos, funcionais e morfológicos de pacientes submetidas à esfincterotomia para tratamento de fissura anal, correlacionando os resultados com os fatores que podem interferir com a continência fecal.

Método: Foram avaliadas prospectivamente pacientes do sexo feminino submetidas à esfincterotomia lateral interna devido à presença de fissura anal crônica utilizando o escore de incontinência de Wexner e distribuídas em dois grupos. Grupo 1 – Escore igual a zero e Grupo 2 – maior ou igual a 1. As pacientes foram submetidas à avaliação funcional e anatômica do canal anal utilizando manometria anorretal e ultrassonografia tridimensional anorretal.

Resultados: Das 36 pacientes incluídas, 33% tinham história de parto vaginal. Dezessete pacientes foram incluídas no Grupo 1 e 19 no Grupo 2. Não houve diferença quanto à idade, paridade e tipo de parto entre grupos. Houve diferença significante em relação ao percentual de redução na pressão de repouso quando comparado o grupo 1 com grupo 2. Não houve diferença no comprimento da musculatura esfincteriana entre grupos. No entanto, o comprimento e o percentual de esfíncter anal interno seccionado foram significativamente maiores no grupo 2.

Conclusão: Há correlação entre os sintomas de incontinência fecal pós esfincterotomia com o percentual de redução das pressões de repouso, tamanho e percentual do esfíncter anal interno seccionado.

Introduction

Among those benign diseases involving the anal canal, anal fissure is a common occurrence in proctologic practice, corresponding to 10% of visits to colorectal units.[1] The initial approach in the treatment of anal fissures is conservative, aiming to reduce the anal resting pressure by lowering the sphincter tonus and improving the blood supply at the site of the fissure, thus promoting healing.[2] Patients with chronic anal fissure are advised to drink fluids and fiber supplements, as well as using stool bulk-forming agents, emollient laxatives, analgesics, and to make use of topical anesthetics and warm sitz baths.[3,4]

On failure of medical treatment with persistence of symptoms, surgical treatment should be offered.[3] Open or closed lateral sphincterotomy is considered the gold standard for the treatment of chronic fissures.[2,3] This procedure results in decreased anal canal pressures, leading to improved perfusion, decreased pain and ulcer healing.[5,6] However, when inducing a sustained reduction in anal resting pressure, a mild, but permanent, incontinence may result.[7–11] According to a systematic review of surgical studies conducted by Nelson, the overall risk of a continence disturbance after the surgery is approximately 10%, but can reach up to 35%.[12]

New imaging methods have enabled the realization of detailed anatomic studies of the anal canal and of the arrangement of sphincter muscles, resulting in an increased interest in using these methods to obtain a complete evaluation of patients with dysfunctions, aiming an adequate therapeutic choice.[13,14] This study aims to evaluate the clinical, functional and morphological outcomes of patients undergoing sphincterotomy for treatment of anal fissure, correlating the results with those factors that can interfere with fecal continence.

Method

From February 2011 to May 2013, we evaluated female patients with a mean age of 42.35 (21–55) years old who underwent sphincterotomy due to chronic anal fissure and with anal sphincter hypertonia proven with anorectal manometry from the Department of Coloproctology, Hospital Universitário Walter Cantídio, Universidade Federal do Ceará (HUWC-UFC). The study was approved by the Ethics Committee in Research of the Hospital.

The patients underwent a complete clinical and proctologic evaluation and underwent anorectal manometry. Initially, they were clinically treated, including with hygiene and diet guidelines, stool bulk-forming agents and topic nitrates for 12 weeks. Those who remained symptomatic were referred for surgical treatment. After preoperative tests and a standard flexible sigmoidoscopy, an open lateral internal sphincterotomy was performed by a group of 3 surgeons with expertise in colorectal surgery, with a previously standardized technique, with transection of the internal anal sphincter extending up to the apex of the fissure.

The patients were weekly followed at the coloproctology outpatient clinic, HUWC-UFC, until complete healing of the wound and absence of symptoms. Four months after wound healing, the patients were evaluated for anal continence by an examiner who did not take part of the surgical procedure