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## Original Article

# Technique and results of the first six cases of anal sphincteroplasty with Deoti's flap for complex anatomical deformity of the perineum



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## ABSTRACT

**Objectives:** Anal sphincteroplasty with Deoti's flap is a recently published procedure for the treatment of fecal incontinence with severe perineal deformity. The aim of this study is to report six cases of patients, analyzing their results in fecal incontinence questionnaires and proposing a new scale to better assess our technique's main objective, the reconstruction of the perianal anatomy.

**Methods:** Six patients were submitted to anal sphincteroplasty with Deoti's flap and follow-up was performed every six months. Functional results and Quality of Life were measured by Wexner Score and Fecal Incontinence Quality of Life Scale, respectively.

**Results:** All operations were carried out without failure to perform Deoti's flap rotation. The sample presented medians of 18.5 and 3.5 on Wexner Score, before and after surgery, respectively. In the Fecal Incontinence Quality of Life Scale, the medians before and after surgery are, respectively, 1.75 and 3.35 (Scale 1), 1.54 and 2.60 (Scale 2), 2.35 and 3.28 (Scale 3), 1.49 and 3.33 (Scale 4). The p-values were 0.0173 for Wexner Score and 0.0260, 0.0411, 0.0368 and 0.0952 for Scales 1, 2, 3 and 4 of Fecal Incontinence Quality of Life Scale, respectively. All patients presented sustained improvement in Wexner Score and in quality of life questionnaire (in all scales of Fecal Incontinence Quality of Life Scale).

**Conclusions:** Deoti's surgical flap with sphincteroplasty successfully reconstructs complex anatomical deformities of the perineum. Current questionnaires to assess fecal incontinence may not evaluate properly the anatomical result of the technique, thus we propose a visual scale. In addition, sphincteroplasty with Deoti's flap may have longer-term outcomes in functional results than sphincteroplasty alone.

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## Técnica e resultados dos primeiros seis casos de esfíncteroplastia anal com retalho Deoti para deformidade anatômica complexa do períneo

### R E S U M O

**Palavras-chave:**

Cirurgia colorretal  
Retalhos cirúrgicos  
Incontinência fecal  
Resultado do tratamento  
Períneo

**Objetivos:** A esfíncteroplastia anal com retalho Deoti é um procedimento publicado recentemente para o tratamento de deformidade perineal grave. O objetivo deste estudo é relatar seis pacientes, analisando seus resultados em questionários de incontinência fecal e propondo uma nova escala para avaliar melhor o objetivo principal da nossa técnica, a reconstrução da anatomia perianal.

**Métodos:** Seis pacientes foram submetidos à esfíncteroplastia anal com retalho de Deoti e o acompanhamento foi realizado a cada seis meses. Os resultados funcionais e a qualidade de vida foram medidos pelas Escalas Wexner Score e FIQL, respectivamente.

**Resultados:** Não houve falhas na rotação do retalho Deoti. A amostra apresentou medianas de 18,5 e 3,5 na Wexner Score, antes e depois da cirurgia, respectivamente. Na Escala FIQL, as medianas antes e depois da cirurgia são, respectivamente, 1,75 e 3,35 (Escala 1); 1,54 e 2,60 (Escala 2); 2,35 e 3,28 (Escala 3); 1,49 e 3,33 (Escala 4). Os valores de p foram 0,0173 para Wexner Score e 0,0260; 0,0411; 0,0368 e 0,0952 para Escalas 1; 2; 3 e 4 de FIQL, respectivamente. Todos os pacientes apresentaram melhora sustentada na pontuação de Wexner e no questionário de qualidade de vida (em todas as escalas do FIQL).

**Conclusões:** O retalho de Deoti com esfíncteroplastia reconstrói com sucesso as deformidades anatômicas complexas do períneo. Os questionários atuais para avaliar a incontinência fecal podem não avaliar adequadamente o resultado anatômico da técnica, por isso propomos uma escala visual. Além disso, a esfíncteroplastia com retalho de Deoti pode apresentar resultados funcionais mais duradouros do que a esfíncteroplastia isolada.

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### Introduction

Fecal incontinence (FI) is the involuntary loss of gas, liquid or solid stool and causes negative impact on patient's quality of life.<sup>1</sup> Its incidence remains unknown, mainly because of patient's embarrassment in reporting symptoms.<sup>2</sup> Anal continence depends on anatomical mechanisms (Internal Anal Sphincter – IAS; External Anal Sphincter – EAS; Corrugator cutis ani muscle and the Perivasculär ring) functioning in synchrony, and also on the feces' consistency and volume.<sup>1</sup> Many factors related to abnormal sphincter mechanism can lead to FI and they can be grouped in major etiology groups: pelvic floor denervation, congenital abnormalities, miscellaneous and, the most common, trauma, specifically obstetric trauma.<sup>2</sup>

Several questionnaires evaluate quantitatively and qualitatively FI and also Quality of Life (QoL). The most used are the Jorge & Wexner Fecal Incontinence Score and the Fecal Incontinence Quality of Life Scale (FIQL).<sup>2-4</sup> The primary treatment option for FI is conservative treatment, including psychotherapy, clinical therapy, perineal musculature strengthening, biofeedback.<sup>2</sup> Instruction for ideal defecation habits are always necessary in order to preserve perineal musculature.<sup>2</sup> In less advanced FI, clinical treatment has shown excellent results and it is based on high fiber diet and bulking agents, aiming a more consistent stool and, depending on the patient, antidiarrheal medication can be used.<sup>2,5</sup> The classic surgery indication is for complete sphincter disruption, successfully treated with sphincteroplasty.<sup>2</sup> The most

used surgical technique available is the anterior overlapping sphincteroplasty, that shows good short-term functional results, but, over time, declines, starting specially after two years, which can be objectively assessed by FI questionnaires.<sup>6</sup> However, in cases with perineal complex anatomical deformity, we recommend the overlapping sphincteroplasty with Deoti's surgical flap. The aim of this article is to present six cases treated by sphincteroplasty with Deoti's Flap.<sup>5</sup>

### Methods

From September 2012 to October 2017, 6 Patients were submitted to sphincteroplasty using Deoti's Flap. Four of them at Alpha Institute of Gastroenterology, Hospital of Clinics Federal University of Minas Gerais and two, at Cristiano Machado Hospital, Hospital Foundation of Minas Gerais State. All patients were female with ages from 31 to 60 years, at time of surgery. The main indication for Deoti's flap use was severe perineal anatomical deformity caused by obstetric trauma (2), after perianal fistula surgery (3) or hemorrhoidectomy (1). Patient's characteristics are in Table 1. Functional results and QoL were assessed approximately every 6 months after surgery by Wexner Score and FIQL Scale, validated to Brazilian portuguese.<sup>1,7</sup>

Our patients had different follow-up time and, our sample group does not meet the sample size required for parametric tests and the sample is not normally distributed. Therefore, we performed a nonparametric test, the Mann-Whitney test, for

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