Transposition of gracilis muscle for treatment of recurrent anal and rectovaginal fistula

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Abstract

Background: Rectovaginal fistula is defined as a result of an abnormal connection between the rectum and vagina. It is often a result of inflammatory bowel disease, iatrogenic illness, malignancy or trauma. Rectovaginal fistula treatment is dependent on the classification of the fistula (simple or complex). There are few reports on transposition of gracilis muscle as a feasible option for treatment of rectal, vaginal and urethral fistula.

Clinical cases: We present the first three cases experiences from the Instituto Nacional de Ciencias Medicas y Nutricion "Salvador Zubirán," a tertiary-care medical center in Mexico City.

Conclusions: Gracilis muscle transposition is a feasible procedure in our population for treatment of recurrent rectovaginal and anorectal fistulas.

Key words: rectovaginal fistulas, gracilis muscle.

Introduction

Rectovaginal fistula by definition is an abnormal connection between the rectum and the vagina as a result of inflammatory bowel disease, iatrogenic injury, malignancy, and trauma. Its diagnosis is made by clinical suspicion due to purulent drainage from the perineal area, recurrent vaginitis, malodorous, including the passage of air or feces through the vagina.

Treatment of rectovaginal fistula is dependent on the classification of the fistula (simple or complex), its location, condition of the sphincter mechanism and previous repair attempts. A simple rectovaginal fistula is located in the middle and lower portion of the vaginal septum, is <2.5 cm in diameter and is secondary to trauma or sepsis. Complex fistulas are >2.5 cm in diameter and are secondary to various other causes independent of infection or trauma.

Zmora et al. in a study of nine patients reported as a viable option gracilis muscle transposition for repair of fistulas between the rectum, vagina and urethra, especially after failed transanal and perineal repairs.

Surgical Technique

The patient is placed in modified lithotomy position. A perineal incision is made. A plane is developed between the external anal sphincter and the vagina. The tract is identified and the fistula is dismantled. Dissection is continued 2 to 3 cm above the site of the fistula creating a bed for the vascularized gracilis muscle. A longitudinal incision is made the length of the internal side of the thigh, directly over the muscle. The muscle is identified and the tendon is disinserted. It is dissected and freed proximally creating a tunnel between the skin of the perineum to carry it to the bed between the wall of the vagina and rectum. A drain is placed and the skin incisions are closed (Figures 1 and 2).

The following three cases are the initial experience of the National Institute of Medical Sciences and Nutrition “Salvador Zubirán” and possibly in Mexico.

Clinical Cases

Case 1

We present the case of a 33-year-old female with complex rectovaginal fistula secondary to episiotomy. Endoanal ultrasound documents a lesion of 30% of the anal sphincter at the anterior...
portion. Using a perianal approach, a sphincteroplasty is performed and transposition of the right gracilis muscle with protective ileostomy, which was reconnected at 6 months. At 8 months of follow-up, there is no evidence of fistula (Figure 3).

Case 2

We present the case of a 36-year-old female with diagnosis of persistent complex perianal fistula with history of three failed total thickness advance flaps, for which protective loop ileostomy is performed. Fistulotomy, sphincteroplasty and transposition of gracilis muscle between the primary and secondary orifice is performed. At 6 weeks postoperative and without ileostomy closure, the patient shows no evidence of recurrence (Figure 4).

Case 3

We present the case of a 50-year-old female with a diagnosis of microscopic polyangiitis, cyclic neutropenia and persistent rectovaginal fistula with history of four failed advance flaps of the rectal mucosa for persistence of symptomatology. Protective ileostomy using laparoscopy was performed as well as transposition of the gracilis muscle. Closure of the ileostomy was done at 7 weeks postoperatively, and at 8 weeks postoperative there was no documented recurrence of the fistula.

Discussion

Use of the gracilis muscle for treatment of complex rectovaginal and anorectal fistulas is applicable in our hospital environment. We demonstrated this with a series of cases where patients, after having been subjected to different treatments for the fistulas and having had recurrences, were subjected to this alternative procedure. The results obtained in our patients were compared to those reports by MacRae,3 Zmora,4 and Rabau,5 who reported in their series a degree of scarring ranging from 60-100%, with our rate being 100% due to lack of data regarding recurrence.
during the short-term follow-up. Moreover, no patient demonstrated decrease in lower extremity strength where the muscle was removed or abnormalities of sensitivity of the extremity. The greater scarring is hypothetically due to interruption of the fistulous tract, creating a flap hopefully greater than the cutaneous one, thereby avoiding its recurrence. The benefit of this technique is obtained after other procedures for the treatment of fistulas have been performed because it is a more invasive procedure than the conventional treatment. Therefore, it is used specifically for treatment of recurrent fistulas. It is important that this procedure be performed with the assistance of a plastic surgeon who is an expert in performing muscular flaps so as to ensure the correct insertion and tension of the muscle fibers to avoid treatment failure or secondary complications due to a poor flap technique. Preference for performing a protective loop ileostomy rather than a colostomy is as a result of studies that demonstrate the advantage of carrying out an ileostomy especially when dealing with disease to <5 cm from the anal margin, radiotherapy, obstruction, infection and lack of surgeon experience.

The procedure described is technically easier to perform and with less morbidity and mortality than a Hartmann colostomy. Although the success rate in our series was 100%, it remains necessary to evaluate the results in a larger number of patients and with long-term follow-up.

References