

New technique in the literature for recto-vaginal fistula: Gebrel-Mostafa technique

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ABSTRACT

Aim. In this study, we present a new method for treating cases of rectovaginal fistula that will be added to the medical literature. In this study, we examine two patients with low vaginal fistula from their initial clinic visit until the end of their follow-up period.

Methods and materials. Two patients who had undergone a normal vaginal delivery one year prior presented to our clinic with complaints of offensive vaginal discharge and distressing symptoms, including stool leakage and vaginal flatulence. They consented to experience this new technique for the treatment of their low vaginal fistula.

Results. Gebrel-Mostafa technique has numerous beneficial effects, including the elimination of the need for a second operation to remove the plastic Avis, which functions as a seton. In addition, it is characterized by a short duration of operation, the inability to form an abscess or hematoma, and a rapid return to normal life. Avis plastic acts as an auto-tightening and auto-cutting material, and the patient or doctor can tighten it. Finally, it is less expensive, and there is no requirement to use the labial Martius flap.

Conclusion. This (Gebrel-Mostafa) technique yields positive outcomes with no significant morbidity and is feasible to perform. The absence of incontinence, abscess formation, and sepsis in the wound may be attributable to the wide range of antibiotics administered to the patients.

Keywords: Rectovaginal fistula, Gebrel-Mostafa technique, incontinence, fistula tract, perianal fistula

INTRODUCTION

Rectovaginal fistula (RVF) is an uncommon condition that results in significant morbidity and psychosocial dysfunction due to an aberrant tract linking the anorectum and vagina. Obstetric trauma is the most frequent cause of RVF, with traumatic devascularization of the perineal area leading to RVF development. Major etiologies include obstetrical trauma, infection, and Crohn's disease [1,2].

In Approximately 90% of cases, RVF is diagnosed based on the patient's medical history and a clinical exam that includes proctoscopy and vaginal probing.

Imaging utilizing magnetic resonance tomography (MR), computer tomography (CT), colon contrast study, or endosonography (ES) is the next diagnostic step if the diagnosis is still uncertain, no fistula is discovered, or malignant disease as the origin of the fistula cannot be ruled out. MR and ES are among the most effective imaging modalities for diagnosing colorectal fistulas, as they also allow for the evaluation of potential sphincter abnormalities [3-5].

The rectovaginal fistula's genesis, size, location, sphincter status, and concomitant systemic conditions, such as diabetes mellitus and autoimmune diseases, all

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affect how successfully it can be treated. The success rate of surgical procedures is also significantly affected by the surgeon's experience and prior attempts at repair [6,7].

Various surgical techniques are available to treat rectovaginal fistulas, including the advancement flap, sphincteroplasty and fistulectomy, coloanal anastomosis, and gracilis muscle restoration. The condition of the fistula and the cause of this medical issue play a significant role in determining the surgical method. (8) Surgical closure is linked to high rates of morbidity and failure. The highest rates have been reported in patients with Crohn's disease or radio-induced fistulation, ranging from 10 to 40 percent [9].

MATERIALS AND METHODS

Prior to the procedure, all relevant information, the purpose, and methodology of the trial were explained to the study participants. In addition, informed consent was obtained from both subjects.

Two patients visited our clinic one year after a normal vaginal delivery; they have no prior medical or surgical history. They complained of offensive vaginal discharge. In addition, they exhibited some disturbing symptoms, including stool leakage and vaginal flatulence. Both individuals lacked a history of constipation that could have led to a stercoral rectovaginal fistula.

There is a small opening in the vagina through which stool and flatus (flatulence) can pass, and physicians began to investigate the patients after trans-rectal ultrasound revealed (rectovaginal fistula) in both cases. Fistula was present in both cases (low vagina, simple type). The fistulae in both patients were well-visualized and well-felt, and the digital examination revealed a good anal tone. The fistula openings in both patients were small (less than 1 cm) and had a single track.

On vaginal examination, the darker mucosa in the fistula tract was visible, and a whitish vaginal discharge indicated vaginitis. After examining patients, physicians decided to operate on this fistulae and apply this new maneuver to cure patients from the fistulae.

The procedure

In addition to clinical examination, a number of investigations can aid in the preoperative localization of the opening; however, intraoperative localization must be precise. This can be a simple task if external probing is straightforward and effective. In order to prevent the creation of a false internal opening, probing should be performed carefully. The internal opening can occasionally be palpated as a dimple, elevation, fibrous pit, or soft granulation tissue pimple. Forceful probing in such cases results in the creation of a false track.

A full bowel preparation was administered two days

before surgery. A temporary transurethral urinary catheter was placed preoperatively to keep the operative site clean. Both patients were placed in the lithotomy position and administered spinal anesthesia under strict aseptic conditions. The fistula's accurate track was determined by probing (passing the probe through the vaginal opening to the rectum and exiting through the anal hole). Afterward, two Allis forceps were placed at the lower edge of the fourchette, and an incision was made in the perineal region in an oblique direction parallel to the fibrosed fistula track, beginning at the fourchette and ending at the center of the perineal body, in order to gain access to the identified track without causing any damage to the track.

Then, we made a diversion of the fistula's track from being a rectovaginal fistula to a perianal fistula. After the diversion of the track, the vaginal canal and surrounding area are closed with interrupted stitches using a Vicryl (2/0) round needle. After the vagina stitches, we attempt to insert a sterilized Avis plastic belt in place of the metal probe (which acts as an auto-cutting seton) and then tighten the Avis around the perineal skin and fistula track. The wounds of both patients were dressed, and then patients were followed up. The operation lasted for approximately thirty minutes (25 – 30 minutes) for both patients.

The (Gebrel-Mostafa) technique is illustrated below in Figures 1-6.

Follow-up strategy

The patient remained in hospital for two days on sips of water by mouth and intravenous antibiotics. On the third day, she was fed a normal diet.

After patients were discharged from the operating room, follow-up care commenced. Patients were given antibiotics against (anaerobic, gram-positive, and gram-

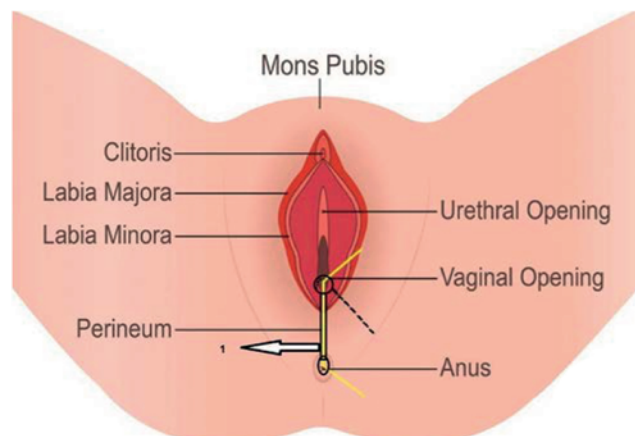


FIGURE 1. 1) The arrow of two parallel black lines mentions the fistula track; 2) The yellow color line refers to the probe; 3) The dotted line is the direction of the diversion of the track and the probe; 4) The dotted line refers to the incision line (oblique), in the perineal region, parallel to the fibrosed track without destruction of the track

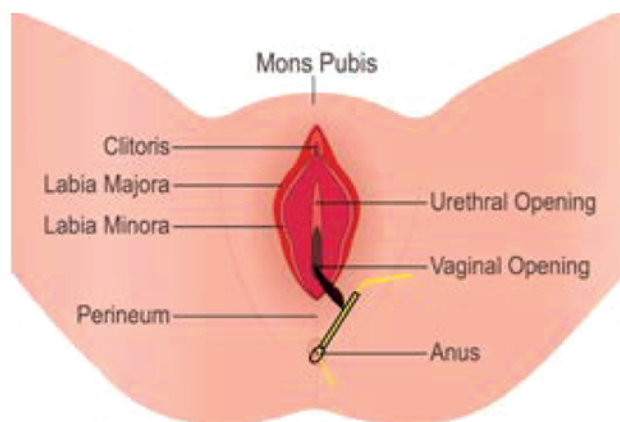


FIGURE 2. It reveals the direction of diversion of the fistula track by the metal probe (yellow line), outside vagina to an area next to the center of perineal body

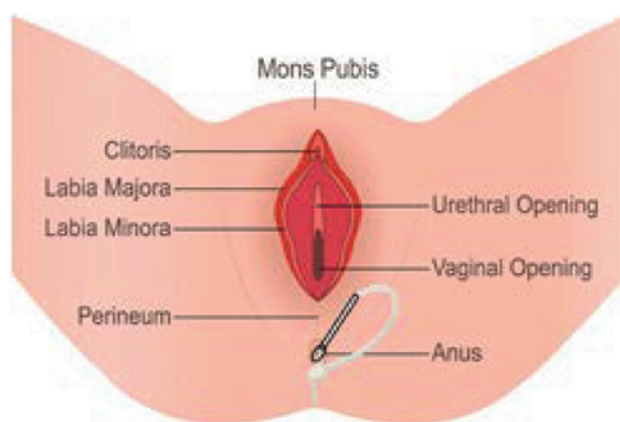


FIGURE 5. It reveals insertion of Avis inside the fistula track and tightening it around the newly-formed perianal fistula (as an auto-cutting seton)

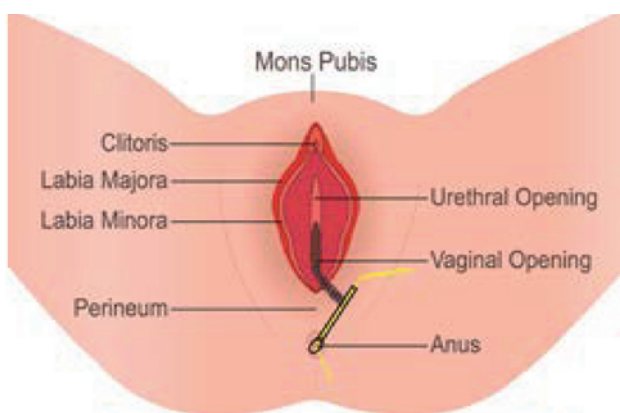


FIGURE 3. It reveals the vagina was sutured after diversion of the track

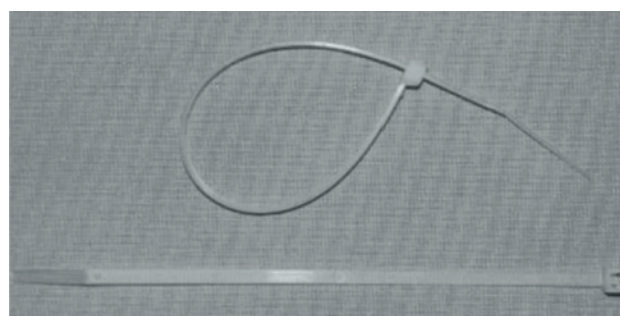


FIGURE 6. Plastic Avis

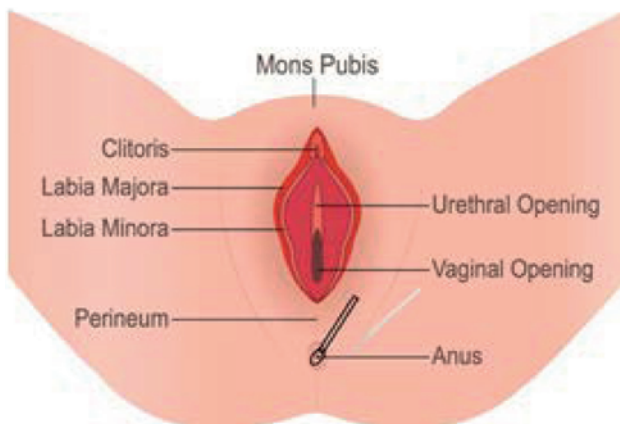


FIGURE 4. It reveals both (the plastic Avis and the direction of diverse track), preparing to remove the metal probe (yellow line) and putting the plastic Avis inside the track itself

negative bacteria]. Oral analgesics were recommended as non-steroidal anti-inflammatory drugs, anti-inflammatory as alphachymotrypsin, and twice-daily vaginal douches.

We asked patients to visit the clinic every two weeks to check the plastic Avis and to tighten the Avis around the perineal skin and the track because, as the healing process by fibrosis becomes increasingly active with

time, and to ensure that the vaginal wound was healing and no septic wounds were present. The advantage of placing the Avis in the track is that it serves as a drainage site for any type of discharge, such as blood or abscesses, that could occur in any patient undergoing surgery described in the literature.

Over the course of three months following the operation, the clinic conducted follow-up. Both patients experienced (no stool or flatus leakage from the vagina) during the follow-up period, and there was no fecal or gas incontinence during the follow-up period. Sexual activity was advised to begin four weeks after surgery to allow the vagina to heal fully. After three months of gradual, complete tightening of the Avis around the already-diverged perianal fistula, the Avis was removed, and the fistula was entirely healed by fibrosis.

The positive points of this operation

This operation, (Gebrel – Mostafa) technique, has many advantages, including no need for a second operation to remove the plastic Avis, which acts as a seton, and the operation takes less time than other techniques described in the medical literature. In addition to the small amount of blood loss observed during surgery, an abscess or hematoma cannot form at the surgical site because the Avis and the differentiated perianal fistula serve as drainage sites until the healing process is complete. Rapid return to normal life has been reported as

having fewer complications. Avis plastic is an auto-tightening and auto-cutting material that can be tightened by the patient or physician. It is less expensive because only one ampoule of Vicryl (2/0) round needle was required for the entire procedure. The labial martius flap was not required to close the area between the vagina and rectum. Functional and cosmetic results were excellent, and patient satisfaction and quality of life were significantly improved.

DISCUSSION

Two patients presented with vaginal stool leakage and vaginal flatulence and had uncomplicated rectovaginal fistulae as described. Both patients agreed to be subjected to this innovative treatment to recover.

Since Barton's therapeutic endeavors in the middle of the nineteenth century, other methods have been documented. The primary cause of failure was devascularization in the fistula zone. Martius utilized the well-vascularized bulbocavernosus muscle to circumvent this difficulty [10,12].

This method's drawbacks include acute sepsis, and a large internal opening (>2.5 cm) are contraindications for the risk of anastomotic breakdown, a heavily scarred, indurated wooden perineum would prevent adequate exposure and flap mobilization, and it might not be durable if the anal sphincter complex is not intact. The broad range of success rates – from 29% to 100% – can be explained by technique and patient choice variations [10,11].

Other techniques appear to have a lower reported rate of healing. The Musset approach yielded positive initial results in 87-100% of patients, but because sphincterotomy was required for this treatment, there was a chance of anal incontinence [13].

This new technique yielded positive results without causing significant morbidity in our hands and is simple to execute. The absence of incontinence, abscess formation, and sepsis in the wound may be attributable to the broad spectrum of antibiotics administered to the patients. In addition, it is for small, low rectovaginal fistula of obstetric origin and is safe and acceptable. There is no need for a second operation to remove the plastic Avis, which functions as a seton, which is an advantage over other techniques in the literature. Furthermore, the operation time required is only 30 minutes. Avis plastic is a self-tightening and self-cutting material that can be tightened by the patient or physician. In addition, the labial martius flap is not required to close the area between the vagina and rectum, resulting in less blood loss.

CONCLUSION

This (Gebrel – Mostafa) technique yields positive outcomes with no significant morbidity and is feasible to perform. The absence of incontinence, abscess formation, and sepsis in the wound may be attributable to the wide range of antibiotics administered to the patients.

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REFERENCES

1. El-Gazzaz G, Hull TL, Mignaneli E, Hammel J, Gurland B, Zutshi M. Obstetric and cryptoglandular rectovaginal fistulas: long-term surgical outcome; quality of life; and sexual function. *J Gastrointest Surg.* 2010;14:1758-63. doi: 10.1007/s11605-010-1259-y
2. Reichert M, Schwandner T, Hecker A et al. Surgical Approach for Repair of Rectovaginal Fistula by Modified Martius Flap. *Geburtshilfe Frauenheilkd.* 2014;74(10):923-7. doi: 10.1055/s-0034-1383149
3. Schmidt S, Chevallier P, Bessoud B et al. Diagnostic performance of MRI for detection of intestinal fistulas in patients with complicated inflammatory bowel conditions. *Eur Radiol.* 2007;17:2957-63. doi: 10.1007/s00330-007-0669-z
4. Stoker J, Rociu E, Wiersma TG et al. Imaging of anorectal disease. *Br J Surg.* 2000;87:10-27. doi: 10.1046/j.1365-2168.2000.01338.x
5. Stoker J, Rociu E, Schouten WR et al. Anovaginal and rectovaginal fistulas: endoluminal sonography versus endoluminal MR imaging. *AJR Am J Roentgenol.* 2002;178:737-41. doi: 10.2214/ajr.178.3.1780737
6. Rahman MS, Al-Suleiman SA, El-Yahia AR, Rahman J. Surgical treatment of rectovaginal fistula of obstetric origin: a review of 15 years' experience in a teaching hospital. *J Obstet Gynaecol.* 2003 Nov;23(6):607-10. doi: 10.1080/014433610310001604349
7. Halverson AL, Hull TL, Fazio VW, Church J, Hammel J, Floruta C. Repair of recurrent rectovaginal fistulas. *Surgery.* 2001 Oct;130(4):753-7; discussion 757-8. doi: 10.1067/msy.2001.116905
8. Abu Gazala M, Wexner SD. Management of rectovaginal fistulas and patient outcome. *Expert Rev Gastroenterol Hepatol.* 2017 May;11(5):461-471. doi: 10.1080/17474124.2017.1296355
9. Saclarides TJ. Rectovaginal fistula. *Surg Clin North Am.* 2002 Dec;82(6):1261-72. doi: 10.1016/s0039-6109(02)00055-5
10. Kodner IJ, Mazor A, Shemesh EI, Fry RD, Fleshman JW, Birnbaum EH. Endorectal advancement flap repair of rectovaginal and other complicated anorectal fistulas. *Surgery.* 1993 Oct;114(4):682-9; discussion 689-90. PMID: 8211682.
11. Finan PJ. Management by advancement flap technique. In: Phillips RKS, Lunniss PJ, editors. *Anal Fistula. Surgical Evaluation and Management.* London: Chapman & Hall; 1996. p. 107-14.
12. Lehur PA, Hamy A, Smili M. Définition, classification et bilan des fistules recto vaginales. *Hepatogastroenterolgy.* 2000;7:128-30.
13. Tsang CB, Madoff RD, Wong WD, Rothenberger DA, Finne CO, Singer D, Lowry AC. Anal sphincter integrity and function influences outcome in rectovaginal fistula repair. *Dis Colon Rectum.* 1998 Sep;41(9):1141-6. doi: 10.1007/BF02239436