

## A Large Post Radiation Rectovaginal Fistula Managed by A Diverting Colostomy: A Case Report

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### ABSTRACT

**Background:** Radiation-induced rectovaginal fistula (RI-RVF) is an uncommon but devastating complication after treatment for cervical cancer.

**Case:** A 50-year-old woman previously treated for cervical cancer with chemoradiotherapy presented with fecal passage through the vagina. Examination showed a 3 cm rectovaginal fistula located 2 cm from the anal verge. Pelvic MRI demonstrated a large rectovaginal fistula measuring approximately 30 mm without recurrent malignancy. Laboratory tests were normal. The multidisciplinary tumor board recommended diverting loop colostomy. The postoperative course was uneventful.

**Conclusion:** Diversion remains an effective first step before definitive reconstruction in extensive radiation-induced fistulas.

**KEYWORDS:** Rectovaginal fistula; Radiotherapy ; Cervical cancer ; Colostomy.

### INTRODUCTION

Radiation-induced rectovaginal fistulas are notoriously difficult to manage owing to radiation-associated fibrosis, hypovascularity, and impaired tissue repair.

An optimal treatment requires an individualized strategy developed within a multidisciplinary team.

We report the case of a patient with cervical cancer who was referred to our department for the creation of a diverting colostomy.

### CASE PRESENTATION:

A 50-year-old woman with a history of locally advanced cervical cancer treated with definitive chemoradiotherapy presented with fecal leakage through the vagina. Clinical examination revealed a large rectovaginal fistula measuring approximately 3 cm in diameter, located 2 cm from the anal verge. The abdomen was soft, non-distended, and non-tender, with no signs of peritonitis or bowel obstruction.

Pelvic magnetic resonance imaging (MRI) confirmed a 30 mm rectovaginal fistula associated with post-radiation parametrial fibrosis and showed no evidence of local tumor recurrence (Fig. 1).

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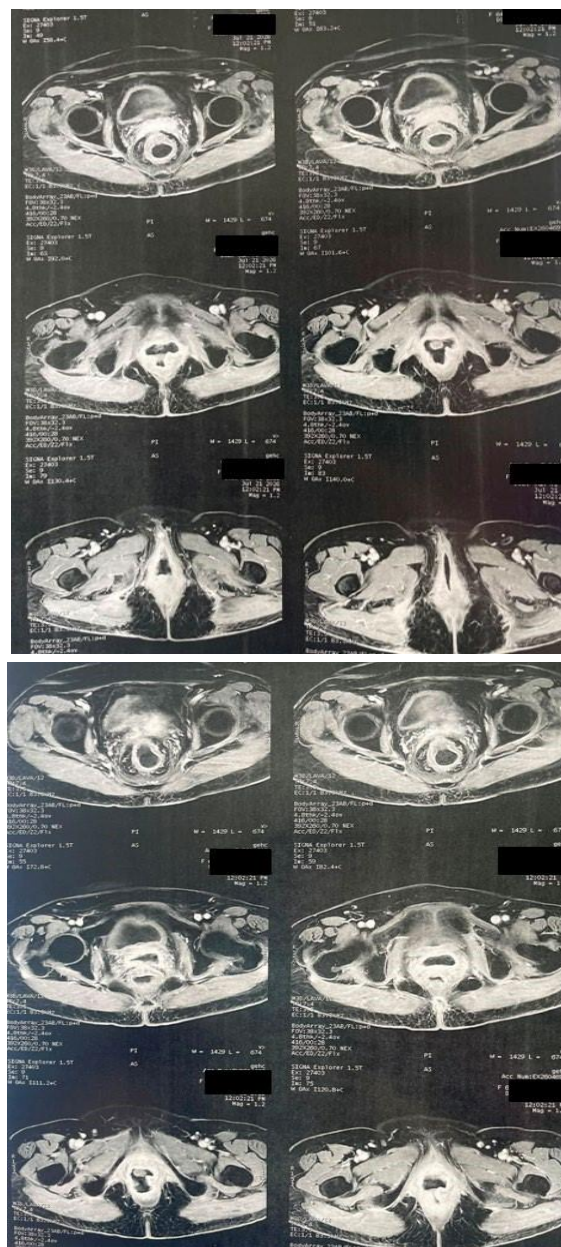


Fig. 1: Pelvic MRI of our patient showing the rectovaginal fistula.

Routine laboratory investigations, including complete blood count and serum biochemistry, were within normal limits.

Following multidisciplinary team discussion, the fistula was considered radiation-induced and unlikely to heal with conservative management given its large size and the surrounding irradiated tissues.

A diverting sigmoid colostomy was therefore performed to achieve fecal diversion, reduce contamination of the fistula, alleviate symptoms, and optimize local conditions for potential future reconstructive surgery.

The patient's postoperative course was uneventful. She was discharged on postoperative day 1.

## DISCUSSION:

Recto-vaginal fistulas (RVFs) are defined as abnormal connections between the rectum (or anal canal) and the vagina.

They can be classified according to their location:

- **Low RVF (anovaginal fistula)** : the fistula connects the distal anal canal (at or below the dentate line) to the posterior fourchette (the lower part of the vaginal opening).
- **High RVF**: the fistula connects the upper vagina (near the cervix) to the rectum.
- **Middle RVF**: the fistula is located between the low and high levels.

RVFs can also be categorized according to complexity:

- **Simple RVF**:

Typically characterized by its low anatomical location and small diameter, with the fistulous tract connecting the distal anal canal to the lower vagina.

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- Most commonly caused by obstetric trauma, such as childbirth-related injury, or by a localized infection.
- The surrounding tissues are generally healthy, well vascularized, and free of significant inflammation or scarring, making the fistula technically less challenging to repair. Consequently, simple RVFs usually have a higher likelihood of successful surgical closure and a better overall prognosis compared with complex rectovaginal fistulas.

### □ **Complex RVF:**

- Characterized by its larger size, higher anatomical location, or both.
- Often associated with underlying conditions such as Crohn's disease, previous pelvic radiation therapy, malignancy, recurrent fistulas, or extensive tissue inflammation and scarring. These factors compromise tissue quality and impair healing, making surgical management considerably more challenging.
- Frequently require advanced reconstructive procedures, the use of tissue flaps or staged surgical approaches, and are associated with lower healing rates and a higher risk of recurrence compared with simple rectovaginal fistulas.

The evaluation should also define the fistula's anatomy. This often requires an examination under anesthesia to accurately identify the fistula opening, course, and surrounding tissues, as well as radiologic imaging (such as MRI pelvis or endoanal ultrasound) to delineate the fistula tract and assess involvement of adjacent structures [1].

The management of rectovaginal fistulas (RVFs) depends on its location and etiology [2]. It begins with a thorough assessment of factors influencing treatment selection, after which conservative, nonoperative management is generally recommended as the initial approach.

In cases associated with infection, treatment should focus on controlling the infection and allowing local inflammation to resolve before considering surgical intervention.

For patients with Crohn's disease, achieving disease remission prior to fistula repair is essential to improve healing and reduce the risk of recurrence.

If conservative measures are unsuccessful, surgical treatment is undertaken, typically beginning with less invasive techniques. In complex or recurrent RVFs, the use of wellvascularized tissue interposition is often required to enhance healing and increase the likelihood of successful closure.

Additionally, a temporary diverting stoma may be considered in patients with severe symptoms or large fistulas to relieve symptoms, decrease fecal contamination, and optimize conditions for subsequent definitive repair [3].

## CONCLUSION

Large post-radiation rectovaginal fistulas require a multidisciplinary approach. A diverting colostomy is generally recommended as the initial management to control symptoms and optimize local conditions before definitive surgical reconstruction.

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### **Consent:**

*As per international standard or university standard, patient(s) written consent has been collected and preserved by the author(s).*

### **Ethical approval:**

*As per international standard or university standard written ethical approval has been collected and preserved by the author(s).*

### **Conflict of interests:**

*Authors have declared that no competing interests exist.*

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