

# Post-radiotherapy recto-vaginal fistula in cervical cancer

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## CASE REPORT

We report the case of a 52-year-old female patient with a history of locally advanced cervical cancer with parametrial invasion responsible of left uretero-hydronephrosis, without rectal or bladder involvement (FIGO IIb, 2018); treated with concomitant radio-chemotherapy nine years ago (total dose: 45 Gy + cisplatin). Subsequently, the patient experienced moderate pelvic pain followed by fetid leucorrhea, which motivated her consultation. The clinical examination revealed an inflamed vaginal mucosa, containing feces, as well as ulcerating lesions on the exocervix, on which biopsies were performed. Pelvic magnetic resonance imaging (MRI) showed a defect in the anterior wall of the upper rectum, with the rectal lumen communicating with the vaginal lumen (Figure 1). In the enhanced weighting T1 with fat saturation (Figure 2), there is enhancement along the fistulous path in continuity with the vaginal and rectal mucosa confirming the diagnosis of recto-vaginal fistula. In addition, histological examination of cervical biopsy specimens confirmed tumor recurrence.

## DISCUSSION

Recto-vaginal fistula is defined as a pathological, epithelialized communication between the posterior wall of the vagina and the anterior wall of the rectum, through the recto-vaginal septum [1]. It can be classified into several types depending on the location or etiology of the fistula [2]. Depending on the site, they are classified as:

- Recto-vaginal fistulas: located between the middle third of the rectum and the posterior part of the vagina, at the level of the fornix;
- Low recto-vaginal fistula: located in the lower third of the rectum and the lower half of the vagina;
- The middle recto-vaginal fistula: located between the two.

Depending on the etiology, they are classified as:

- Simple recto-vaginal fistulas: which refer to low fistulas of small diameter caused by trauma (e.g., obstetric wounds) and infection;
- Complex recto-vaginal fistulas: which refer to high fistulas of large diameter caused by cervical or rectal cancer, inflammatory bowel disease (e.g., Crohn's disease), irradiation.

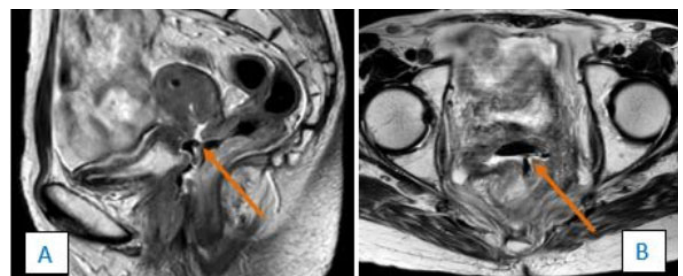


Figure 1: Pelvic MRI in T2-weighted sagittal (A) and axial (B) sections, in a 52-year-old patient with a history of cervical cancer treated with concomitant radio-chemotherapy, showing a fistulous pathway (arrow), communicating the rectum and the vaginal lumen.

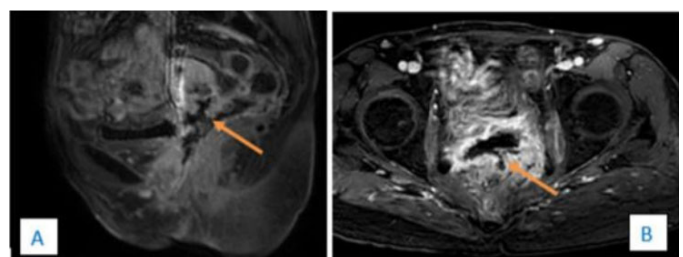


Figure 2: Pelvic MRI in FatSat T1-weighted sequence with gadolinium injection in sagittal (A) and axial (B) sections, in the same patient, showing enhancement of the mucosa along the fistulous path.

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Recto-vaginal fistula is a complication found in about 4% of women with cervical cancer treated with radiotherapy. It is a chronic complication occurring most often after the second year of treatment [3]. The main risk factors are curative radiotherapy with or without chemotherapy and locally advanced tumors [4]. The diagnosis may be suspected clinically if there is a discharge of feces from the vaginal orifice, or if there is a recurrent urogenital infection. The methylene blue test is used to make the diagnosis. Rectoscopy and endorectal ultrasound can identify the primary orifice and catheterize it. Magnetic resonance imaging is rarely indicated in the first intention. It is indicated in the case of recurrent fistula, when endoscopic exploration is not possible (anal canal stenosis), or in the evaluation of local extension or tumor recurrence in a neoplastic context [5]. It offers the added advantage of good identification and description of the fistulous pathway and allows analysis of the sphincters. The presentation of the recto-vaginal fistula on MRI is variable as it may contain fluid, air, feces, or a mixed content. In injected sequences, there is enhancement of the epithelium bordering the fistula path in continuity with the rectal and vaginal mucosa. Other imaging modalities such as computed tomography (CT) scan or lower gastrointestinal opacifications can be used.

As for management, it requires treatment of the underlying pathology, treatment of the fistula, and associated complications. There are two main treatment modalities:

- Conservative treatment: which consists of the use of fibrin glue to close the fistula, treatment of associated infections, and ensuring a good nutritional status;
- Surgical treatment consists of repairing the fistula by laparotomy or laparoscopy for high fistulas or by perineal or transvaginal approaches for low fistulas, associated with a drainage colostomy.

In post-radiotherapy recto-vaginal fistulas, medical treatment is not very effective because of the lesions induced by irradiation, in particular the alteration of blood perfusion. Therefore, surgery remains the treatment of choice [6].

## CONCLUSION

Recto-vaginal fistula is a complication often found during the follow-up of patients treated for cervical cancer with radiotherapy. The diagnosis is made clinically and MRI allows a better description of the fistula characteristics and thus guides the management.

**Keywords:** Cancer, Cervical, Fistula, Radiotherapy, Recto-vaginal

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## Author Contributions

Wend-Yam Mohamed Traore – Conception of the work, Interpretation of data, Drafting the work, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Behyamet Onka – Design of the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Ibrahima Dokal Diallo – Acquisition of data, Drafting the work, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

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Authors declare no conflict of interest.

**Data Availability**

All relevant data are within the paper and its Supporting Information files.

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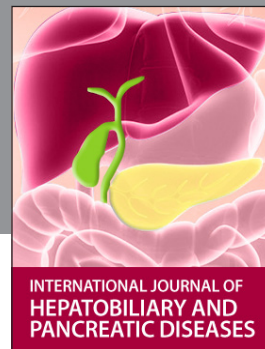
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