


CASE REPORT

Late Post-Hysterectomy Colovaginal Fistula with Extensive Diverticular Disease

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ABSTRACT

The diagnosis of colovaginal fistula came to light in this 70-year-old woman, 22 years after hysterectomy, based on clinics. But, intraoperative and histopathological diagnoses were arduous. Confirmation that a fistula extended from the sigmoid colon into the vaginal stump was sanctioned by a fragment of squamous epithelium disclosed within a colonic fistula.

KEYWORDS : Fistula; Colovaginal; Hysterectomy; Diverticular Disease; Barium Enema

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INTRODUCTION

Intra-abdominal fistulas display a mainly reactive basis, and may originate in inflammatory bowel disease. When coinciding with diverticular disease, the lesions should favor diverticulitis, as their background. However, an abdominal fistula might develop in a malignant tumor [1-5].

An unusual set-up for this occurrence follows hysterectomy, both vaginal and total abdominal hysterectomy. The vaginal stump cap is a fragile structure, consisting in part of granulation tissue and that tends to evolve into vaginal cuff dehiscence [6]. Any intra-abdominal trauma to the cap, especially if recurrent, might lead to a fistula.

A case of colovaginal fistula is presented, the pathogenesis of which could not be elucidated at first [2].

CASE PRESENTATION

Lower left abdominal pain of several months duration, severe constipation, persistent urinary tract infection, underlined by air and feculent vaginal discharge, elicited the suspicion of a colovaginal fistula in this 70 year-old patient. Several more weeks were necessary to establish a diagnosis, using the CT-scan and barium enema; the delay being due in large part to the changing priorities of the pandemic. In addition to the clinical diagnosis of a

colovaginal fistula, a significant narrowing of the sigmoid colon was disclosed.

Besides, the patient is treated successfully for hypothyroidism and for atrial fibrillation.

Laparoscopic sigmoidectomy and lysis of peritoneal adhesions were performed, without attempting to demarcate precisely the fistula. About 40 days after surgery, the patient is well and free from complaints.

Ancillary studies:

Imaging: An abdominal CT-scan localized a diverticular disease at the junction between the proximal and the distal sigmoid colon. A barium enema highlighted, in addition, a significant narrowing of the bowel, in the absence of an obstruction. A discreet, but substantial, flake of barium in the vaginal lumen was identified, sustaining a colovaginal fistula.

Operating Theater findings:

Following laparoscopic lysis of peritoneal adhesions, marked fibrosis was found to cause tight adherence of the sigmoid colon to the anterior-inferior abdominal wall. Using laparoscopy further, the affected gut was separated from the abdominal wall, from the urinary bladder and from the vaginal stump. Neither leakage of feces nor of Betadine was detected. Subsequent to the dissection of the meso-sigmoid, the sigmoid colon was resected. Anastomosis, performed through the anus, did not disclose

any tension in the joined segments of the gut. The degree of sealing-off was evaluated using a rectoscope and by blowing more air into the intestine.

Histopathology: Diverticulosis was very extensive. Focally, acute and chronic inflammation and fibrosis were disclosed, probably consistent with acute and chronic diverticulitis. Complementary fistulas were identified in numerous sections from the bowel; one of the fistulas displayed a fragment of squamous epithelium (Fig. 1), establishing the fistula as colovaginal (Fig. 2). Neither malignancy, nor inflammatory bowel disease was found.

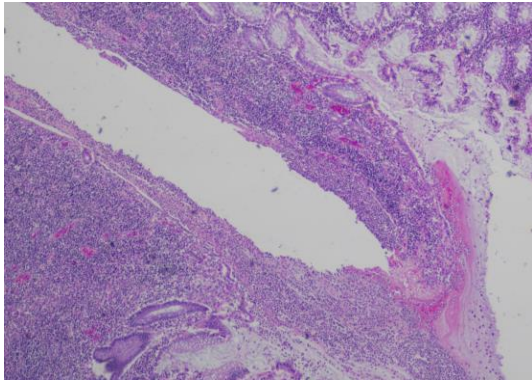


Fig. 1A. A photomicrograph of the sigmoid colon, showing a portion of a fistulous tract with acute and chronic inflammation (H&E x 260).

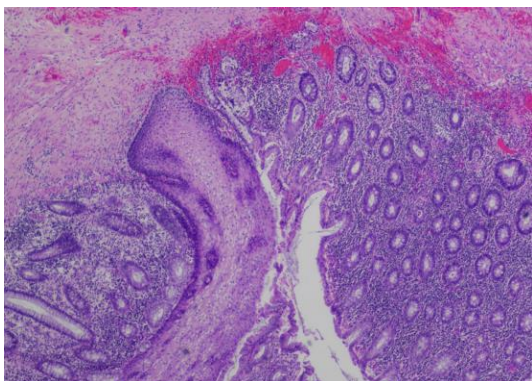


Fig. 1B. A fragment of squamous cell epithelium originating, most probably, from the vaginal vault, underlines the colovaginal nature of the fistula (H&E x 260).

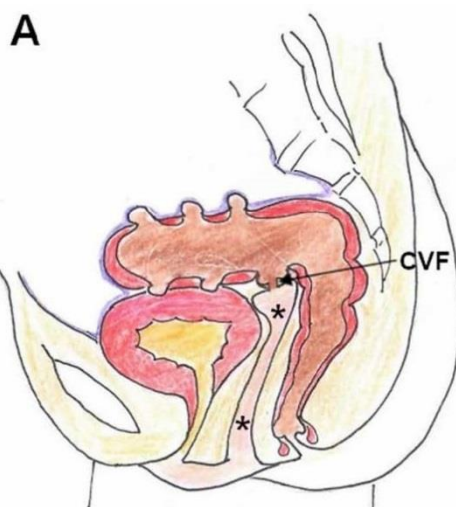


Fig. 2A. A sagittal section from the pelvis, underscores a florid diverticular disease in a patient after hysterectomy. A colovaginal fistula is emphasized by a long arrow (the vagina is depicted by two asterisks) [7].

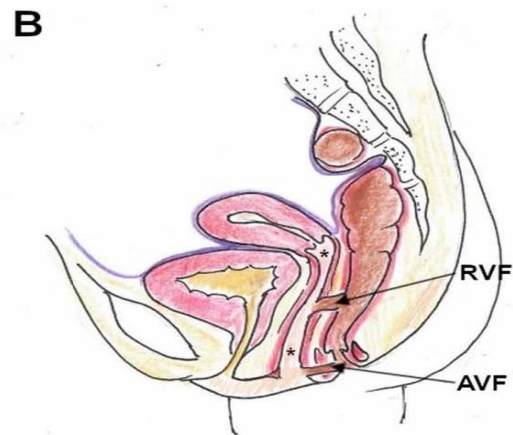


Fig. 2B. By contrast with Fig. 2A, a rectovaginal fistula (RVF) and an anovaginal fistula (AVF) are described [7].

DISCUSSION

Intra-abdominal fistulas occur infrequently, part on an inflammatory basis, a traumatic origin, as post-operative complications or subsequent to a neoplasm [1-5, 8].

When considering our patient, acute and chronic inflammation was found, as well as fibrosis. One type of trauma consists of recurrent strain bearing against a significant bowel narrowing – constipation. The patient had undergone total abdominal hysterectomy (TAH) 22 years prior to the present medical occurrence, we will attempt to understand the significance of the operative complication as part of the medical history.

No clinical, surgical or morphological evidence of a malignant tumor was detected. Another possible role suggested for the multiple diverticula, is that these saccules might have slapped or punched onto an adjacent structure, multiple times a day. A fragile example of such a traumatized site would be the vaginal cuff, and more specifically, its cap. Such occurrences have been reported previously. As mentioned above, the patient had been subject to hysterectomy, 22 years previously.

The vaginal vault often consists predominantly of granulation tissue [8]. Granulation tissue develops mainly after abdominal hysterectomy, is not larger than 0.5 cm, and usually regresses, unstimulated. Its frailty may render it susceptible, under repeated trauma to the development of fistulous tracts, opened into the vaginal lumen. The type of suture used during TAH, might determine the occurrence of granulation tissue [9]. However, for gas and fecal material to penetrate into the vagina, we require a fistula in the bowel wall, which may be complementary to the fistula in the vaginal cap. And indeed, such supplementary fistulas have been disclosed, one of them containing a flake of squamous epithelium, highlighting the colovaginal nature of the fistula.

Evidence has been proposed that vaginal-stump symptoms, in addition to vaginal bleeding, vary slightly. Depending on the mode of surgery, they are milder in patients recuperating from TAH [10].

Among the changing forms of evolution of the vaginal stump, one may identify: a relatively frequent vaginal descent; a genuine prolapse of the vaginal stump, which is relatively rare [11]; vaginal cuff dehiscence, more frequent after TAH [6]; vaginal vault granulation tissue formation is common, but limited in extent [8, 9]. None of these sequels was disclosed.

As mentioned above, the diagnosis of colovaginal fistula is strongly supported clinically and by the imaging, but

much less so by the operating theater observation and again, markedly sustained by the pathological specimen.

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All the authors declare '**no conflict of interest exists**'.

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PATIENT CONSENT

The patient gave her approval for the publication of her medical history and episode.

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AUTHORSHIP

PI. As soon as suspicion of a colovaginal fistula rised, PI took over to completion, investigation, diagnosis and surgery. He read and approved the submission.

DI. Made an extensive work up of the surgical specimen; confirmed the diagnosis and reviewed the submission.

BD. Determined to publish the case; wrote the first draft; had it corrected by co-authors; had the final draft read by co-authors and submitted to Journal.

OA. While he followed the patient, OA was behind most of the steps; he reviewed the final version and approved it.

LE. The patient started her itinerary from his clinic, in which he made the initial diagnosis of colovaginal fistula; he reviewed the first and last drafts.