

What is your diagnosis?

A 65-year-old-woman who complained of uncontrollable passage of gas and feces from the vagina without fever or abdominal pain was referred to the Obstetrics and Gynecology Department. She was in good health and had previously undergone total hysterectomy by laparotomy 20 years earlier for uterine leiomyomata. The symptoms began 5 months after an acute sigmoiditis and were accompanied by vulvovaginal burns and itching. She had undergone several gynecological examinations, which failed to identify the etiology. Rectosigmoidoscopy and magnetic resonance imaging (MRI) also failed to establish a diagnosis. A subsequent workup by vaginography resolved the etiological investigation (Figure 1, 2).



Figure 1. Vaginography-frontal view



Figure 2. Vaginography-view in profile



Answer

Among cologenous fistulae secondary to sigmoid diverticulitis, sigmoidovaginal fistulae are the most frequent type, and they are suspected in elderly women with a history of total hysterectomy and with the complaints of malodorous vaginal discharge, continuous or temporary fecal diversion, and flatus vaginalis (1, 2). They are usually investigated by lower gastrointestinal contrast radiology, frequently with a failure to detect the vaginal fistula (VF). Despite the current focus on modern imaging means, vaginography can appear as a valuable diagnostic test and an attractive alternative (3). In this case, vaginography showed a reflux of contrast medium from the vagina into the sigmoid colon, revealing a fistulous tract (Figure 3, 4). To perform it, we used a Foley® catheter (Bard Urological CO, Covington, GA; which is usually used for bladder drainage) for instillation of water-soluble contrast medium. A large-sized balloon (30 mL) must be used to permit definite sealing of the vagina and avoid contrast medium leakage to the outside. The catheter was positioned in the vagina, and the procedure proved to be painless. Once the balloon was inflated (with water and smoothly), it was necessary to apply gentle traction on the catheter to further seal the introitus. Vaginography showed a fistulous tract. However, it was noteworthy that we observed retrograde filling of the bladder insofar, as the urethra had a high enough opening (contrast medium had instilled it in limit of balloon). Vaginography is indicated to identify the presence and anatomy of high VF. The pressure of contrast medium can unveil fistulous tracts that are not visible with frozen and simply observational imaging techniques. Indeed, some fistulae act as dampers and are visible only through this increase in pressure. However, for fistulae resulting from obstetrical trauma with a lower location, it may be ineffective seeing that the fistula's orifice can be hidden and occluded by the inflated Foley® catheter balloon. The use of an endoscopic device (used in the emergency treatment of digestive hemorrhages) has also been reported to determine the location of vaginodigestive and ureterovaginal fistulae (4). Different operative modalities can be performed for VF (5). It is essential to emphasize that the use of a barium-containing contrast agent is absolutely contraindicated due to the risk of the intraperitoneal passage of barium. In this case, nonvisualization of the fistula did not permit the use of the endoscopic clipping method as described by John et al. (6). Surgical repair via the abdominal approach consisting of fistulectomy and omentum interposition between the colon and the vagina permitted the resolution of the symptoms (Figure 5). The patient's postoperative course was uneventful, and she has remained free from any complaints during follow-up for 35 months.

VF appears to be extremely distressing and remains a major contributor to morbidity in terms of physical, sexual, psychological, and social consequences. It can cause problems of anatomical location. Visualization of the fistula is essential to its successful repair in as much as it allows the surgeon to choose the most appropriate approach. Vaginography has long been the standard examination for the identification of VF. Since then, the progress made in the endoscopic explorations and medical imaging such as MRI or computed tomography has

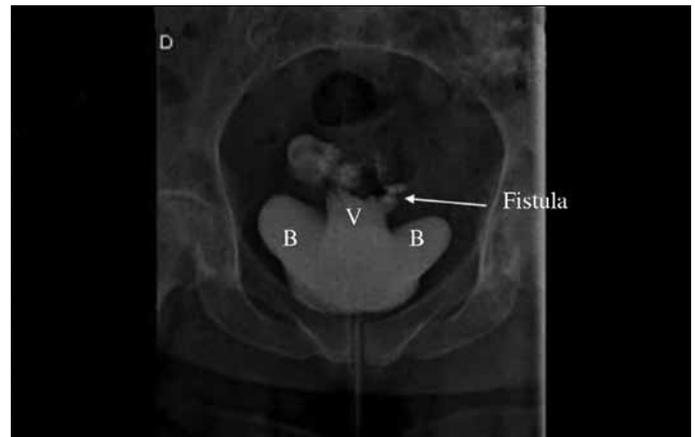


Figure 3. Vaginography revealed a reflux of contrast medium into sigmoid colon (white arrow)

B: Bladder; V: Vagina-frontal view



Figure 4. Fistulous tract from the vagina to the sigmoid colon (white arrow)

B: Bladder; V: Vagina-view in profile

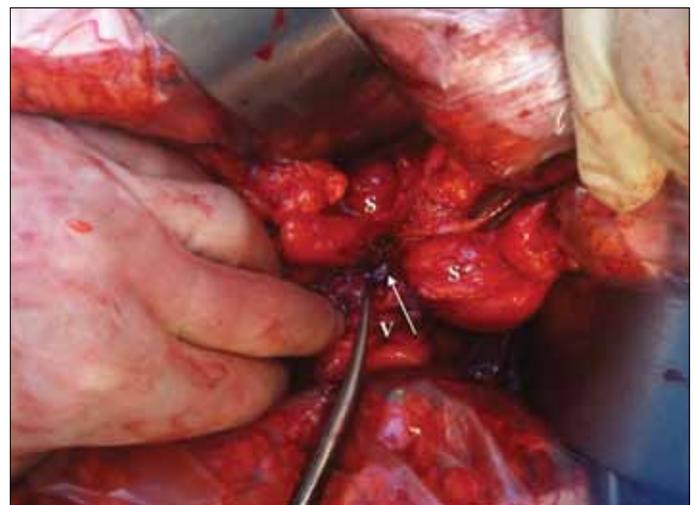


Figure 5. Intraoperative view of the sigmoidovaginal fistula (white arrow)

V: Vagina; S: Sigmoid colon

somewhat relegated this exploration to the second line. Thus, vaginography must be considered as an alternative method during the workup of female patients with a clinically suspected colovaginal fistula, especially when other imaging modalities fail to identify the etiology. According to Giordano et al., it should be considered as the initial investigation method of choice in such cases (7). Moreover, vaginography offers some advantages seeing that it appears to be an accessible, accurate, sensitive, and economic examination (7, 8).

In the past, vaginography had been traditionally used for detection congenital abnormalities such as ectopic insertion of ureters into the vagina as well as for VF diagnosis. In such cases, female patients complained of continuous urinary incontinence without dry time. Son et al. (9) used intravenous urography, ultrasonography, and radionuclide, which failed to identify vaginal ectopic ureters in 61% of cases, while vaginography permitted a diagnosis in the most other cases. In another study, magnetic resonance urography failed to establish a diagnosis, whereas vaginography permitted the discovery of the ectopic ureter in all cases (10). Thus, vaginography should be typically considered in the situation of continuous urinary incontinence in young female patients, especially when other diagnosis and imaging modalities have not established the etiology. More recently, in the same way as MRI, cystourethrography, peritoneography, or defecography, vaginography has been used in the diagnosis and evaluation of pelvic floor disorders (11, 12). Some authors have also reported a method performed by ultrasonography consisting of the use of three-dimensional saline infusion vaginography as an adjunctive modality in the same indications (13). Vaginography has also been described to allow the indirect visualization of an intravaginal foreign body in childhood (14).

We can draw the following conclusions from this case: VF represents a condition with profound and devastating consequences for the patient. VFs pose significant challenges in terms of the diagnosis, which determine their successful therapeutic management (1, 2). Because it targets clinically suspected fistulae and identifies their occult forms, vaginography should win its letters of nobility. Moreover, the procedure causes little or no discomfort to the patient and should also be considered easy to perform, cost-effective, and more conclusive. Thus, the simplest explorations may prove to be the most effective. The authors declare no conflict of interest.

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