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Trophoblastic Retention Upstream of an Incomplete Vaginal: A Case Report

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Abstract **Case Report**

A case of trophoblastic retention upstream of an incomplete vaginal diaphragm is observed in the Department of Obstetric Gynecology I of the Hassan II University Hospital of Fez. Emphasis is placed on the pejorative impact of this malformation on patients' sex lives, the quality of their gynecological follow-up and their obstetrical future. Early diagnosis is fundamental; and screening by speculum examination makes it possible for operable cases to avoid caesarean sections, laparotomies with hysterotomy for abortions or arrested pregnancies; unrecognized cervical cancers due to the impossibility of performing screening smears.

Keywords: Vaginal diaphragm; trophoblastic retention; vaginal malformation, vaginal plasty.

INTRODUCTION

The management of vaginal malformations remains surgical in the majority of cases. When a transverse vaginal septum or vaginal diaphragm exists, surgical treatment will rely on several techniques corresponding to the different clinical forms (complete or incomplete vaginal septum, anatomical situation). There are several modes of discovery depending on the permeability of these septa, and the age of diagnosis and is therefore highly variable: from the fetal period to the parturient in labor.

Numerous surgical techniques are described and can be broadly categorized into resection techniques or by actual vaginal plasty techniques. The essential problem is a common one: recurrent vaginal stenosis. Due to the rarity of this malformation, there is currently no precise consensus on overall management. In all cases, however, it is necessary to perform a complete preoperative workup and evaluation to best determine the type of septum and define associated anomalies (endometriosis, malformations). We report the case of a patient in whom the diagnosis of vaginal diaphragm was made in the face of retention of an interrupted pregnancy.

CLINICAL CASE PRESENTATION

The case is about 43-year-old patient, married and the mother of 2 children, born by caesarean section for vaginismus, for which the patient had never received any follow-up care. She then presented with an interrupted pregnancy of 8 weeks' amenorrhea. An ultrasound-guided aspiration using a Karman probe was attempted in a public hospital facility was then attempted, which did not allow access to the uterine cavity. The patient was then referred to us for further management.

Upon admission, the patient was found to be conscious, hemodynamically, and respiratorily stable. On gynecological examination using a speculum: incomplete vaginal diaphragm in the upper third of the vagina; remaining permeable through a single 1 cm opening on the right side, allowing perception of the cervical relief without visualization of the external cervical orifice, which explains the normal fertility, mode of delivery, vaginismus, and failure of aspiration.

The patient underwent pelvic ultrasonography, which revealed a 35*42 mm trophoblastic retention at the isthmic level. The ovaries showed no abnormalities.

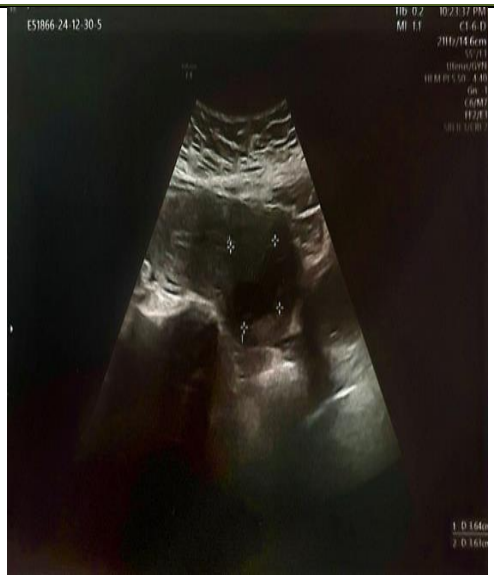
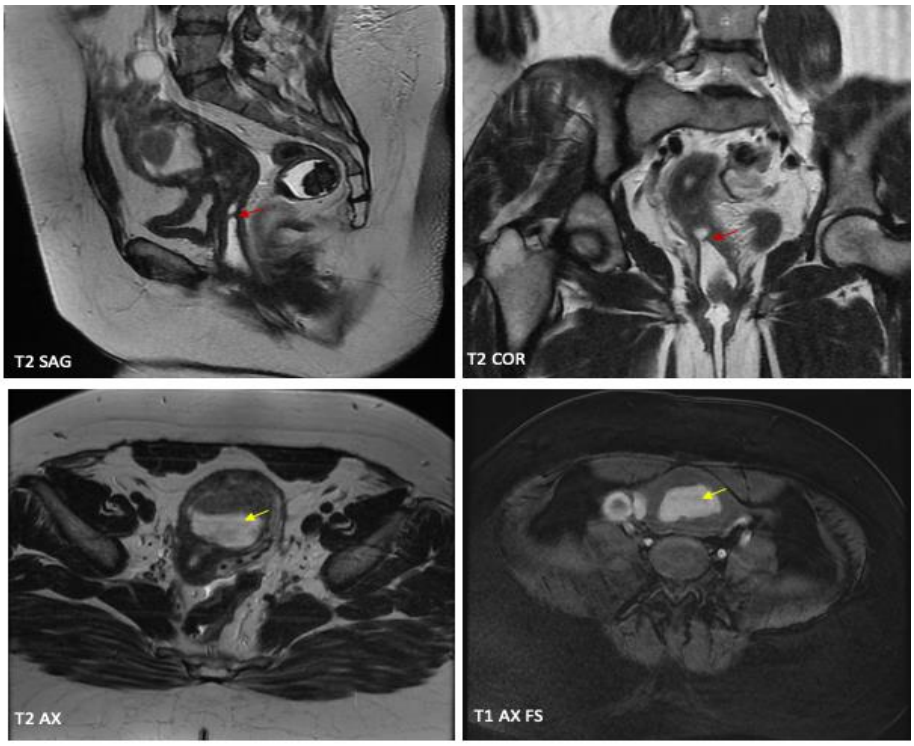


Image 1

Image 2

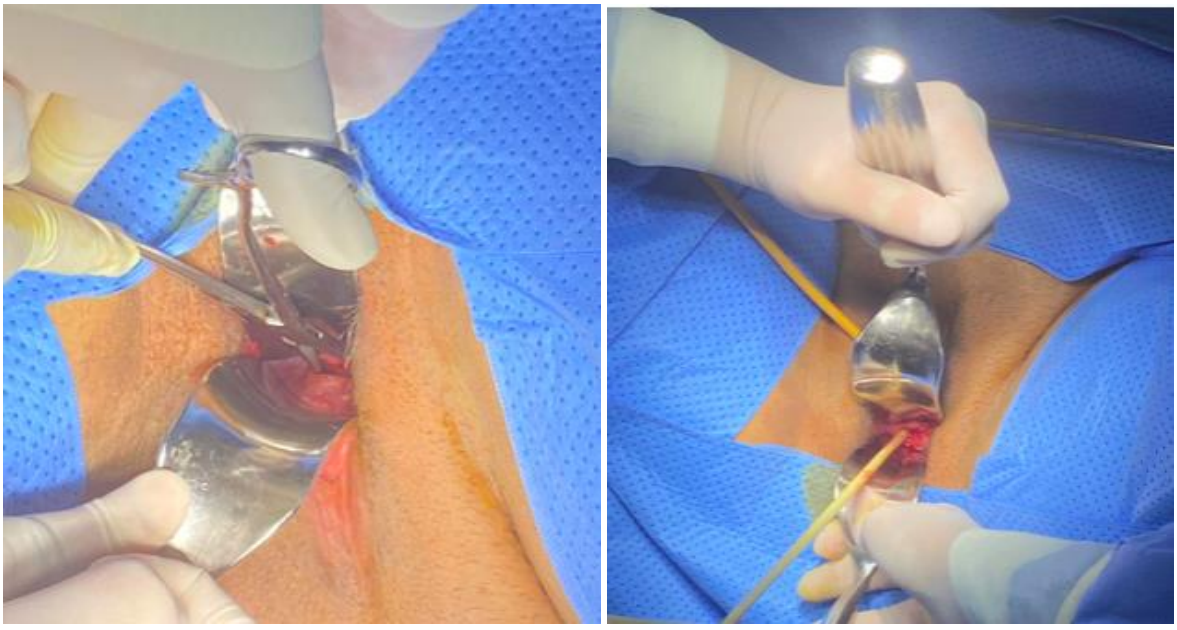
Ultrasound images: show the presence of heterogenous echogenic image at the isthmic level measuring 35*42mm related to trophoblastic retention (Image 1) with a vacuity line in place at the fundic level (Image 2)

She also underwent Pelvic MRI (T2 in 3 planes (with vaginal preparation), Axial: T1, T1 Gado, DWI, LAVA sequences.) which revealed an anteverted, anteflexed uterus, enlarged in size measuring 120 x50 mm in diameter, with posterior corporal formation, described as intermediate T1 and T2 hypersignal, non-restrictive in diffusion and heterogeneously enhancing heterogeneously after GADO, measuring 43 x 20 x 57 mm in diameter in relation to trophoblastic retention. It is also the site of hematic retention with T1 and T2 hypersignals. The MRI also allowed for the identification of a fold in the upper 1/3 of the vagina, measuring 03 mm in thickness, causing an incomplete stenosis of the vagina, consistent with a permeable or incomplete vaginal diaphragm.



Pelvic MRI: Shows the presence of an incomplete septum (red arrow) in the upper 1/3 of the vagina, in T2 hypointensity, responsible for incomplete vaginal stenosis complicated by intrauterine hematometra, with heterogeneous hyperintensity on T1 and T2 (yellow arrows) ➔ incomplete vaginal diaphragm, with upstream intrauterine retention

The patient was scheduled for vaginal diaphragm cure by dissection of the 4 cardinal points of the diaphragm with eversion of the edges, dilatation of the cervix with Heggar candles then an ultrasound-guided aspiration of the retention image until a vacuity line was obtained.



Photos: shows the presence of an incomplete septum in the upper 1/3 of the vagina, having benefited from dissection of the 4 cardinal points with eversion of the edges

A condom filled with compresses was then placed in the vagina to prevent synechiae and recurrence of vaginal stenosis and has been changed every day until healing was complete.

Photos: Show an external condom filled with dressings and liquefied with a regenerating healing cream, positioned in the vagina up to the cervix to avoid synechiae and vaginal restenosis

Postoperative follow-up was favorable, with good healing.

DISCUSSION

The vaginal diaphragm results from the absence of resorption of the boundary between the Müllerian ducts and the urogenital sinus [1]. This anomaly divides the vagina into two segments, reducing it to its functional part. The vaginal diaphragm may be permeable or totally impermeable and may affect all levels of the vagina [1, 2].

This vaginal malformation remains a rare entitý estimated at 1 in 70,000 women. Its mode of discovery is highly variable, depending on its anatomical situation and the extent of vaginal narrowing [3].

There are complete diaphragms and incomplete or perforated diaphragms. The size of the orifice can vary widely, from a simple punctiform hole leaving only the tip of a hysterometer, to a diameter barely smaller than that of the vagina, easily accommodating the speculum [4, 5]. The location of these diaphragms varies from author to author:

Granjon [6] observes them in the middle 1/3 of the vagina (50%), the upper 1/3 (25%) and the lower 1/3 (25%).

Lodi [4] found them most often in the upper 1/3 and middle 1/3 with equal frequency, and more rarely in the lower 1/3. They are frequently single, rarely stepped; their consistency is usually thin, more rarely thick, and fibrous [4]

Cases of invisible orifices have been described, their presence being manifested by the existence of menses and the occurrence of unproblematic pregnancies if spermatic characteristics are normal [5].

In our patient, dyspareunia can be explained by increased stress on the diaphragm during intercourse, due to the greatly reduced depth of the vagina. There was no history of upper or lower genital infection in our patient. Usually, above the diaphragm, the poorly drained vaginal dome and cervix are exulcerated, infected and granulomatous, so leucorrhea and infection are the rule, as is profound dyspareunia [5].

Associated urinary malformations are found one in 3 in cases of vaginal aplasia, in 30% of Rokitansky syndrome [2, 6], and exceptionally in cases of vaginal diaphragm: resorption of the vaginal plate occurs after the 12th week of embryonic development, whereas by the end of the 9th week urinary embryonic development is completé and therefore “insensitive” to teratogenic factors [3]. We had noted no urinary malformations intraoperatively.

Surgical treatment will always be possible for several reasons:

- It prevents endometriosis caused by catamenial reflux [9].
- It prevents cervicitis and upper genital infections, which are often responsible for infertility, ectopic pregnancy, and pelvic abscess [5]
- It enables cervical screening smears, thus preventing from the misdiagnosis of carcinoma due to the inaccessibility of the cervix.
- It can be used to treat dyspareunia.
- It eases the treatment of a possible abortion or interrupted pregnancy, which, occurring on a complete diaphragm or with a very narrow orifice may impose a laparotomy with hysterotomy.

Surgical principles will be described, and treatment sequences will be tailored to the patient's age and symptomatology. The main risk of surgical management is failure due to recurrent stenosis, so follow-up and preventive postoperative treatment are of paramount importance [1].

In the event of hematocolpos (complete menstrual retention upstream of the diaphragm), it will be necessary to make an urgent rapid incision of the vaginal membrane to evacuate the hematocolpos. In this situation, diagnostic laparoscopy can be performed to look for signs of endometriosis.

Surgical reparative treatment will need to be performed in a second stage to recover a virtually normal upstream vaginal cavity.

The diaphragm resection technique [7] is a simple procedure consisting of resection of the diaphragm in its fibroconnective tissue. This procedure is performed on a permeable annular diaphragm (Photo 1) with two vertical incisions made from the central orifice. Palpation will help estimate the thicknes of the fleshy part. The risk is of injuring adjacent organs, the bladder in front and the rectum behind. Resection of the fibroconnective layer will help achieve a proper caliber of the vaginal canal (Photo 2). The loss of mucosal substance must be compensated for by submucosal dissection, enabling the upstream and downstream mucosal edges to be sutured without tension. Anastomosis is performed using separate stitches and fine absorbable sutures (3/0 or 4/0) (Photo 3).

Postoperative treatment relies on the placement of a custom mold to reduce the risk of stenosis. The anatomical and functional outcomes are characterized by a secondary stenosis rate due to the difficulty in maintaining good scar tissue continuity of the mucosa. A Z-plasty may then be performed.

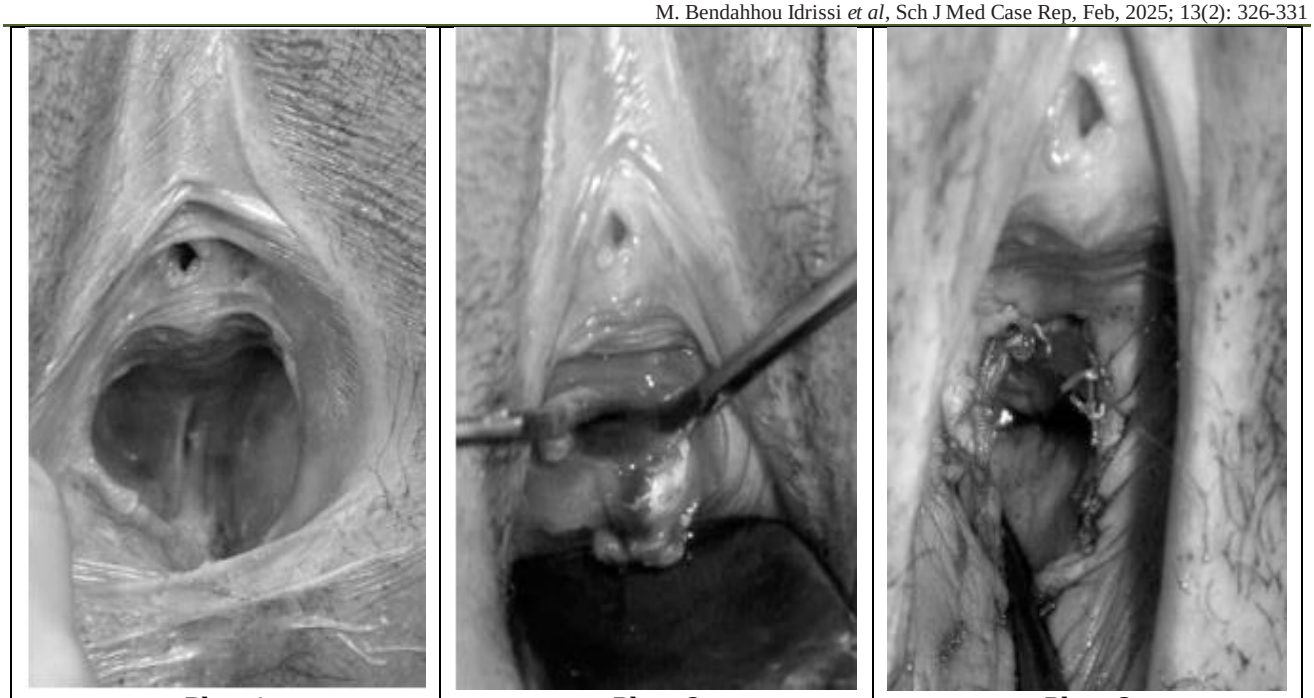


Photo1 | **Photo 2** | **Photo 3**

Photo 1: Thin (5mm) permeable vaginal diaphragm, Pr D. Raudrant (Lyon)
Photo 2: Lower part resection, Pr D. Raudrant (Lyon)
Photo 3: Vaginal suture, Pr D. Raudrant (Lyon)

Y-V procedure [8]

This is a mucosal bridge sliding technique. A submucosal dissection is performed to obtain a triangular flap. The incision is extended along the base of the V to form an inverted Y. Along the cranial base of the diaphragm, this incision collapses the conjunctival and fibrous lamina, collapsing the diaphragm and spreading the margins to form a V-shape. This is then filled with the previously dissected mucosal flap, using stitches (3/0 type slow-absorbing sutures). This technique is best suited to semicircular diaphragms.

Z-plasty

This is an apparently complex technique, the principle of which is to change the transverse axis of the mucosa-fibroconnective blade of the diaphragm into a vertical axis. This technique requires good exposure by divergent traction of the free part of the diaphragm, with an incision that temporarily creates two hemi-diaphragms, one superior, one inferior. An incision on the caudal side of the diaphragm at an angle of 60° to the free edge will be madé up to the fixed vaginal part. A counter-incision on the caudal side will also be made on the opposite side. The aim is to obtain two mucocutaneous flaps that can be translated vertically and sutured to the implant base. Of course, sutures must be made in separate stitches, always using slow-absorbing sutures.

The Crevice procedure [10]

This is a simpler technique involving an incision on an annular permeable diaphragm from the orifice to the deep vaginal base. Submucosal dissection on both sides and transverse tension creates a diamond shape. This incision can be made all around the diaphragm, allowing it to collapse. There are no sutures and this procedure requires progressive re-epithelization. It requires the placement of a mold that must be removed several times in the 1st postoperative stage, to eliminate secretions and the appearance of clots. Subsequently, this change can be made once a week under aseptic control, with re-epithelization expected after a month and a half.

CONCLUSION

The vaginal diaphragm remains a rare anomaly of the genital tract, but one that every obstetrician-gynecologist should be aware of, as he or she is bound to encounter it at some point in his or her career. The reasons for its discovery are extremely variable, depending on the shape and anatomical situation. Surgical treatment must always be well planned. The risks of post-operative stenosis and the impact on the upper genital tract must be considered. A sound knowledge of this type of surgery should help reduce these frequent problems, which often require patients to undergo numerous surgical procedures.

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