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## Case Report

# Primary umbilical endometriosis revealed by tender and hemorrhagic umbilical swelling during menstruation <sup>☆</sup>

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## ABSTRACT

Endometriosis is a relatively uncommon benign pathology that accounts for 0.5%-1% of all extra-pelvic endometriosis. This pathology is characterized by the presence of ectopic endometrial tissue outside the endometrial cavity and is accompanied by the clinical appearance of a bleeding umbilical nodule. Despite the non-specificity of the characteristic imaging signs, abdominal ultrasound and magnetic resonance imaging aid in diagnosis. We describe a case of primary umbilical endometriosis, as well as the clinical aspects and role of imaging in the positive diagnosis of this uncommon pathology.

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## Introduction

Endometriosis is a common pathology that affects women during genital activity and is defined by the presence of endometrial tissue in an ectopic situation [1]. Only a few cases of umbilical endometrial localization, also known as Villar's nodule, have been reported in the literature [2]. It can be primary in a woman who has never had surgery or secondary to a graft in an operative scar, most commonly from obstetric surgery [3].

Endometriosis is clinically diagnosed in the presence of any painful umbilical nodule with, occasionally, blood flow

punctuated by the menstrual cycle. The diagnosis is guided by imaging, which is confirmed after surgical excision.

We present a case of a painful and hemorrhagic umbilical mass in a young woman with no surgical history, which revealed multifocal endometriosis with a uterine fibroid.

## Case report

Our patient is a 43-year-old woman who has had 3 vaginal deliveries and no surgical history. She has an umbilical mass that

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**Fig. 1 – Umbilical endometriosis mass of about 3 cm.**

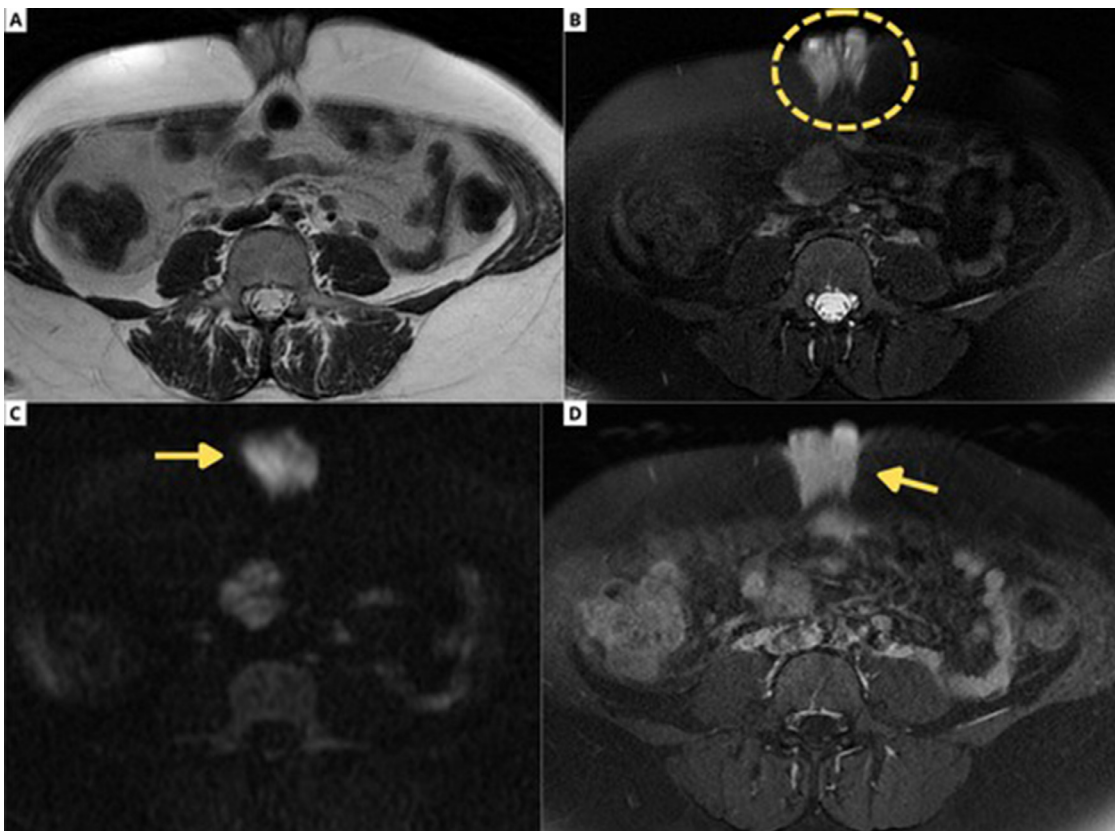
gradually increased in volume after 6 months and is associated with dysmenorrhea and dyspareunia.

The clinical examination finds an umbilical swelling measuring about 3 cm in diameter. It is lobulated, hard, not very mobile, irreducible and sensitive to palpation with a purplish ecchymosis skin coloration, and without evidence of discharge (Fig. 1).

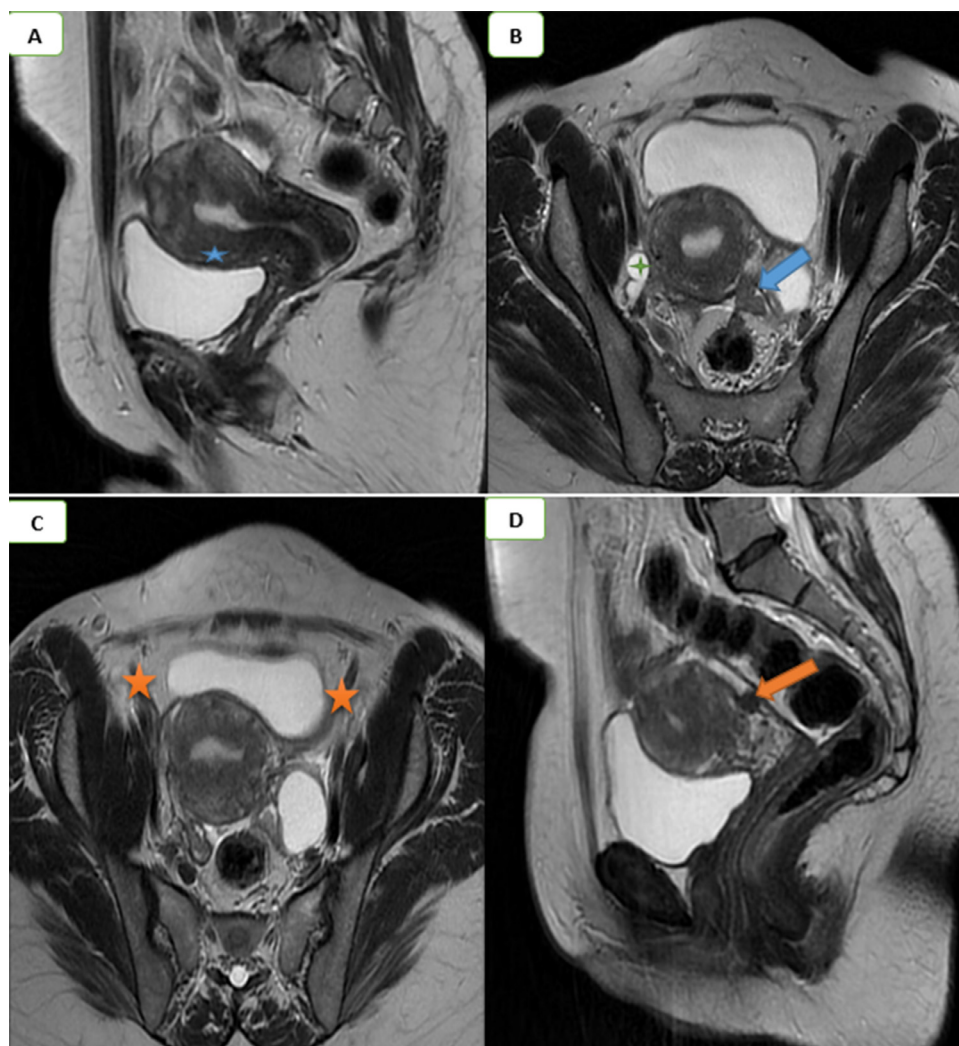


**Fig. 2 – Abdominal ultrasound: transverse section showing a heterogeneous umbilical mass, containing a cystic portion, with no significant vascularization in Doppler, measuring: 36 x 22 mm.**

Abdominal ultrasound highlights a well-limited and heterogeneous umbilical mass containing a cystic portion, with



**Fig. 3 – Abdominal MRI: axial T2 (A), T2 FAT-SAT (B), diffusion (C), and T1 after injection of Gadolinium (D): parietal mass of the umbilical region in unblurred T2 hypersignal on the FAT-SAT sequence, diffusion hypersignal, strongly enhanced after injection of contrast medium.**



**Fig. 4 – Pelvic MRI: T2 sagittal section (A): thickening of the junctional zone (★) with T2 hypersignal spots related to adenomyosis. Coronal T2 section (B): right hematosalpinx (★) and thickening of the left uterosacral ligament (←). T2 coronal section (C): thickening of the round ligaments (★). Sagittal section T2 (D): nodule of the tubal torus (←).**

arterial vascularization in Doppler, measuring  $36 \times 22$  mm (Fig. 2).

Magnetic resonance imaging (MRI) findings were of a limited umbilical mass in isosignal T1 and hypersignal T2, concerning areas of old bleeding, containing a fluid signal logette in hypo signal T1 and hypersignal T2, strongly enhanced after injection of Gadolinium (Fig. 3). In addition to this mass, adenomyosis was associated as well with nodular thickening of the torus, round ligaments, and left uterosacral ligament, in addition to a right hematosalpinx (Fig. 4). Multifocal endometriosis was selected following clinical arguments and radiological orientation.

The patient benefited from surgical resection of the umbilical nodule with confirmation of an endometriotic origin in the pathological study.

## Discussion

Umbilical endometriosis is a rare entity that is defined by the presence of endometrial cells at the umbilical level, accounting for 0.5%-1% of endometriosis cases [4].

There is a primary form of spontaneous occurrence and a secondary one following an endometriosis cell transplant on a surgical scar, most often gynecological [5].

It can be associated with other locations or be isolated, making diagnosis more difficult [6].

It affects women of childbearing age and is manifested by a firm umbilical mass or swelling of blue or black color, painful most often cyclically, punctuated by the menstrual period, which can be the site of bleed-

ing. Other signs may be associated with another location [6].

Its diagnosis is essentially guided by suggestive cyclic clinical manifestations, which may or may not be associated with a pelvic localization comforting the diagnosis [7,8].

When it comes to diagnostic orientation, imaging plays an important role. Although no aspect is specific, ultrasound and MRI remain necessary examinations to eliminate differential diagnoses [9,10].

Ultrasound is used to target and isolate umbilical mass without peritoneal continuity that is very limited, hypoechogenic, and poorly vascularized to Doppler. On MRI, the mass is presented in hypersignal T2, hypo signal or intermediate signal T1, strongly enhanced after injection of Gadolinium [11,12].

Umbilical endometriosis can be confirmed by the demonstration of endometrial glands with a cylindrical epithelium and endometrial stroma made of small round cells [13,14].

## Conclusion

Primary umbilical endometriosis is a rare pathology whose pathogenesis is still poorly understood. The clinic and imaging (ultrasound and MRI) are not specific to this pathology, whose diagnosis must be evoked in the presence of a painful and hemorrhagic umbilical nodule or mass in a genitally active woman with no history of abdominal surgery. The diagnosis of certainty is based on histology.

## Patient consent

Written informed consent for publication was obtained from patient.

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