Radiology Case Reports 17 (2022) 2133–2136

Available online at www.sciencedirect.com

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journal homepage: www.elsevier.com/locate/radcr

Case Report

Primary umbilical endometriosis: case report and literature review of an unusual cause of catamenial umbilical pain ☆

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ARTICLE INFO

Article history:
Received 7 March 2022
Revised 14 March 2022
Accepted 20 March 2022

Keywords:
Endometriosis
Umbilical pain
MRI

ABSTRACT

Endometriosis is defined by the presence of functional ectopic endometrial tissue outside the uterine cavity, excluding the myometrium. It is a benign tumor that can infiltrate and cling to other organs, mimicking a malignant tumor. Umbilical endometriosis is a rare type of endometriosis that can occur naturally or as a result of a surgical operation. We report the case of a patient who experienced catamenial umbilical discomfort and whose radiological examination revealed endometriotic involvement.

Introduction

Endometriosis, which was first described in 1860 [1] is defined by the presence of functioning endometrial tissue outside the uterine cavity. It is a benign estrogen-dependent disease that affects 5% to 10% of all women [2]. Endometriosis most commonly affects the pelvic organs, particularly the ovaries and Fallopian tubes; however, extra-pelvic endometriosis has been described, affecting the bladder, kidney, bowel, omentum, lymph nodes, lungs, pleura, extremities, umbilicus, hernia sacs, abdominal wall, heart, and even the brain [1–4]. Extra-pelvic endometriosis is uncommon, accounting for just 12% of documented instances [1]. The pathophysiology of primary umbilical endometriosis is unknown. Secondary umbilical endometriosis, on the other hand, is produced by iatrogenic implantation in surgical scars [4].

Case report

A 39-year-old multiparous female with all natural births who had been complaining of a painful umbilical mass for the previous 10 months. She had no prior surgical experience. Every month, she acquired an umbilical skin lesion with pain 1 week

☆ Competing Interests: The authors do not declare any conflict of interest.

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https://doi.org/10.1016/j.radcr.2022.03.079

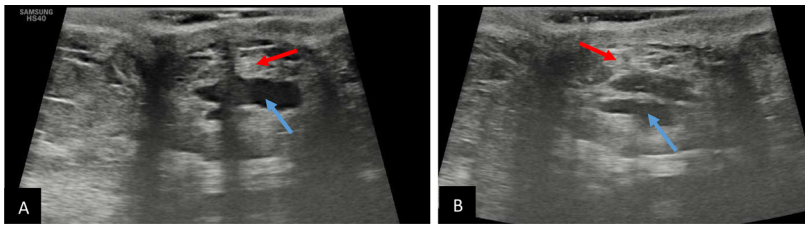

Fig. 1 – Transverse sonographic image (A and B) of the abdominal wall showing a heterogeneous hypoechoic umbilical mass containing cystic portions (blue arrows) and hyperechoic spots (red arrows) with indistinct edges.

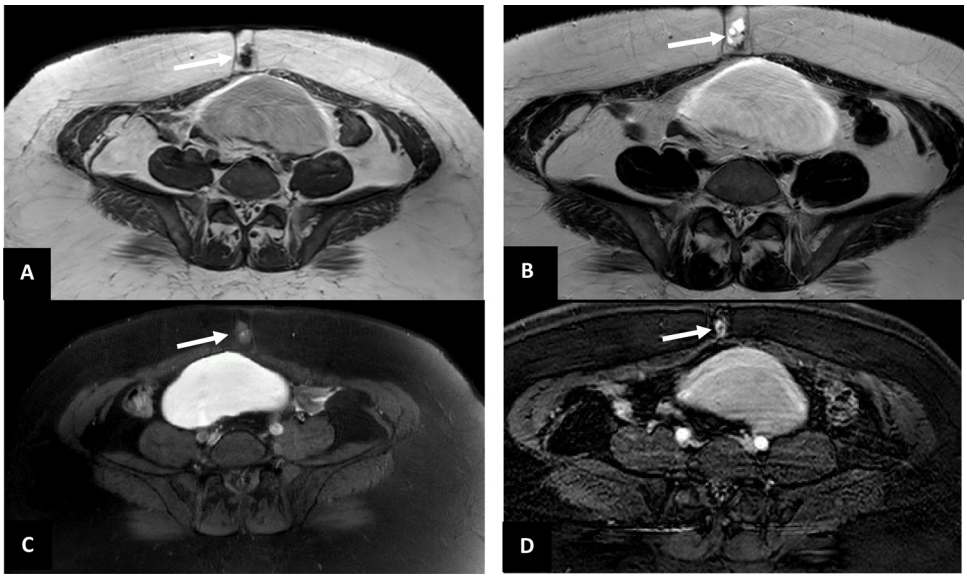

Fig. 2 – Axial T1 (A), T2 (B), T1FS (C) and gadolinium contrast-enhanced T1-weighted fat-suppressed (D) images showing an umbilical lesion (white arrows) with heterogeneous signal containing liquid portions in low signal intensity on T1 and hyper signal T2 with spots having a haemorrhagic signal in hyper signal T1 and T1FS. This lesion shows a subtle enhancement after injection.

before her menstruation. The discomfort continued the entire course of her cycle. Her dysmenorrhea worsened 2 years ago, and a gynecologist diagnosed her with endometriosis based on her clinical symptoms.

A 1.15 × 1.07 cm heterogeneous hypoechoic umbilical mass with cystic areas and hyperechoic spots was discovered on ultrasound of the abdomen wall. The borders were a little indistinct. There was no evidence of abdominal fascia invasion or increased angiogenesis (Fig. 1).

An umbilical mass with a heterogeneous signal involving liquid sections in low signal intensity on T1 and hyper signal intensity on T2, as well as patches with a haemorrhagic signal in hyper signal T1 and T1FS, were discovered using pelvic MRI. This lesion exhibits a slight improvement after injection (Fig. 2). A unilocular fluid-filled cyst emerging from the ovaries with a high signal on T1 and T2 weighted sequences, indicating endometriomas, and a dilated fallopian tube with a high signal intensity content, indicating hematosalpinx, were also found (Fig. 3). MRI revealed several endometriotic abnormalities, including adenomyosis and deep pelvic endometriosis, as well as thickening of the uterosacral ligaments and the torus uterinus (Fig. 3).

The patient had a simple resection of her umbilical endometrioma and was put on hormonal therapy. In the second phase, she underwent an exploratory laparoscopy to treat her deep endometriosis.

Discussion

Endometriosis is a systemic illness that can affect a range of organs, with a focus on the pelvic. While umbilical involvement is uncommon, it is more prevalent than other extrapelvic localizations [1–4].

When umbilical endometriosis develops spontaneously, it is categorized as primary; otherwise, it is characterized as secondary [5]. Villar's nodule was the previous name for primary umbilical endometriosis [6]. The disease's physiopathology is still unknown. However, in secondary umbilical endometrio-

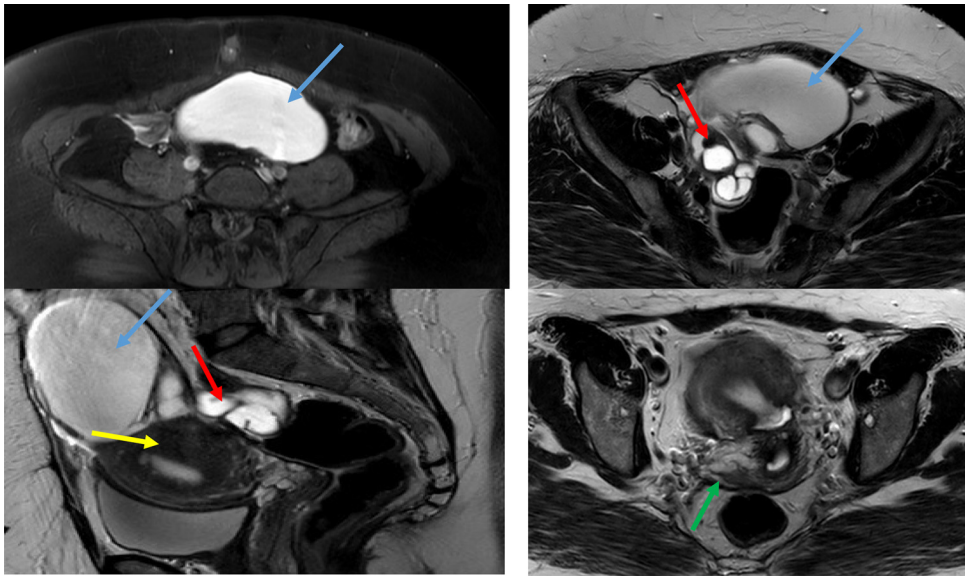

Fig. 3 – Axial T1FS (A), T2 (B, D) and sagittal T2 (C) images showing showing a right hematosalpinx (red arrows), a left ovarian endometrioma (blue arrows) with adenomyosis (yellow arrow) and thickening of the tubal torus and uterosacral ligaments (green arrow).

sis, the concept of lymphatic or haematogenous propagation is the most frequently accepted, especially if there is also pelvic endometriosis [5]. Isolated umbilical involvement could be explained by uracal residual metaplasia [5]. Our patient's situation was unique in that she had never had surgery previously. We're talking about primary umbilical endometriosis.

It commonly manifests as a red, brownish, or flesh-colored nodule. Pain, bleeding, or swelling of the lesion are the most prevalent symptoms, especially during menstruation. An asymptomatic variant, on the other hand, should not be neglected [6]. In our patient, pain was the most noticeable symptom, but she also exhibited catamenial recrudescence and mild skin abnormalities.

Although most umbilical injuries are benign, other causes, such as a Sister Mary Joseph metastatic nodule, primary umbilical malignancy, and amelanotic melanoma, should not be ruled out [7]. The most common differential diagnoses for umbilical endometriosis include pyogenic granuloma, hernia, urachal residual, pemphigus vegetans, and hemangioma [2,7].

A spherical umbilical nodule in the dermal-epidermal layer and hypodermis, solid with varied echogenicity, most typically hypoechoic with an anechoic cystic component, is seen on ultrasound [8]. The margins are smudged or spiculated. Color Doppler can be used to detect intralesional vascular patches in some cases [8].

The primary approach for studying pelvic endometriosis, particularly deep endometriosis, which has three essential aspects: glandular masses, fibrous masses, and mixed masses, is magnetic resonance imaging (MRI). On T2 and T1 weighted sequences, masses with a strong glandular component and a weak fibrous reactivity appear hyperintense with enhancement after gadolinium injection. Fibrous lesions are hypo or isointense on T1 and T2, with varied and frequently mild enhancement, whereas mixed masses present as fibrous masses with punctiform T1 and T2 hyperintense patches. Even if the certitude diagnosis remains anatomopathological, MRI findings are critical in distinguishing endometriotic umbilical nodules from other diagnoses [7].

Conclusion

Umbilical endometriosis could be primary or secondary in origin. A case of primary umbilical endometriosis was presented, complete with usual clinical and radiological findings. Even if the diagnosis of certitude remains anatomopathological, imaging techniques like as ultrasonography and MRI are useful in finding and characterizing endometriotic lesions.

Author's contributions

All authors contributed to this work. All authors have read and approved the final version of the manuscript.

Authorship

Conception and design of the study: Hind Sahli, Jihad Boularab, Nazik Allali, Latifa Chat, Siham El Haddad. Acquisition of data: Hind Sahli, Jihane El Mandour, Nazik Allali, Latifa Chat, Siham El Haddad. Analysis and interpretation of data: Hind Sahli, Jihad Boularab, Nazik Allali, Latifa Chat, Siham El Haddad. Drafting the article: Hind Sahli, Jihane El Mandour, Nazik Allali, Latifa Chat, Siham El Haddad. Critical revising: Hind Sahli, Nazik Allali, Latifa Chat, Siham El Haddad. Final approval: Hind Sahli, Nazik Allali, Latifa Chat, Siham El Haddad.

Ethical standards

Respected

Patient consent

Written informed consent for publication was obtained from patient.

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