

Primary Umbilical Endometriosis: Case Report

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Abstract

Endometriosis is a benign condition that occurs during the productive age in women. However, one of the rare disorders of endometriosis location-wise is the umbilical endometriosis. Umbilical endometriosis had been divided into primary and secondary umbilical endometriosis depending on the causes; either after laparoscopic or open procedures which are secondary. The primary happened unexpectedly. MRI sensitivity is superior to detecting small lesions. According to a study done in 2002, MRI sensitivity and specificity to detect biopsy was proven 69% and 75%. In this case report, the patient was a 38-year-old single girl with primary umbilical endometriosis. For treatment, most cases with umbilical endometriosis have been treated with surgery. However, treatment with medication needs to be researched and requires more investigation.

Key words: Primary umbilical endometriosis; Gynecology; MRI.

Introduction

The presence of endometrial tissue outside the uterine cavity is called endometriosis. It affects 10-15 % of the female population worldwide. Endometriosis is a benign condition that occurs during the productive age in women. However, endometriosis can be located in different anatomy parts such as ovarian fossa, pelvic, and bladder. However,

one of the rare disorders of endometriosis, location-wise, is in umbilical [1].

Umbilical endometriosis had been divided into primary and secondary umbilical endometriosis depending on the causes, either after laparoscopic or open procedures, which is secondary umbilical endometriosis. The primary happens unexpectedly. The first-time umbilical endometriosis was mentioned was in 1886 by Villar [1]. For this

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reason, the term Villar's nodule was used to describe patients with primary umbilical endometriosis [2].

Nevertheless, the pathophysiology of primary umbilical endometriosis is undetermined [2]. In addition, primary umbilical endometriosis is rare compared with secondary umbilical endometriosis. According to Fernandes et al, the frequency of 0.5% to 1% of all patients is with endometrial ectopia [3]. Common symptoms are flesh colored nodules, in some cases red, or brown nodules, pain, bleeding, and swelling. The pain and swelling will increase during menstruation [2]. A systematic review done in 2022 established that 66% and 43.3% of cases with umbilical endometriosis symptoms were abdominal pain and bleeding from the umbilical area. Unfortunately, umbilical endometriosis symptoms match with other pelvic disorders such as pelvic infections, nongynecological, urologic, and gastrointestinal [4]. In fact, umbilical endometriosis can be associated with pelvic endometriosis; 20% of patients with primary umbilical endometriosis have been diagnosed with pelvic endometriosis, as well [6]. Ultrasound and magnetic resonance imaging (MRI) can be helpful to diagnose umbilical endometriosis; however, MRI sensitivity is superior to detect small lesions. According to a study done in 2002, MRI sensitivity and specificity to detect biopsy-proven was 69% and 75%. The study was done on 36 women and the detection was confirmed in 25 women [4]. Regarding treatment, most cases with umbilical endometriosis have been treated with surgery [5,6]. However, another option was mentioned in some cases which is medical

therapy, even though medical therapy is not widely used and performed as often as surgical solution. In fact, until 2007, there were 5.9% of the cases reported that underwent medical therapy. On the other hand, the majority of the cases (67.6%) underwent surgical approach [7]. In this case report, the patient was a 38-year-old single girl with primary umbilical endometriosis.

Case report

A 38-year-old single women present to King Saud Medical City gynecology clinic referred from primary health care complaining of severe pain, swelling, and bleeding from the umbilical area. The patient had experienced these symptoms since 2021 and decided to come to the hospital in July 2022. In addition, visually, the patient has a blackish colored nodule in the umbilicus (Figure 1). The bleeding and pain increased every month, associated with the menstruation. The patient did not have any surgery or procedure before. Moreover, the patient did not have any trauma in the interested area. The gynecologist highly suspects the patient has primary umbilical endometriosis based on the symptoms. For further confirmation, the patient was sent to do pelvic MRI with contrast.

MRI was done on a 3T magnet (Siemens) by using a pelvic coil resulting T2 weighted sequences and T1 fat suppressed. Sagittal and transverse T2 weighted fast spin were taken. In addition, there were transverse and sagittal T1 weighted spin echo images. The slice thickness was 5 mm and intravenous contrast material (Gadolinium) was injected 0.2 mL/kg.

The matrix size was 256×192 , and the field of view was 35 cm. The patient was injected

with 20 mg IM Buscopan before the scan acquisition.



Figure 1: Umbilical Endometriosis, with active bleeding during the menstrual period. blackish colored nodule in the umbilicus.

The first MRI report on 28th of June 2022 indicated the bilateral ovaries are adherent to the posterior uterine wall associated with hemorrhagic component, representing bilateral ovarian endometrioma. It measured 1.7×2.1 cm for the right side and 1.7×0.9 cm for the left side. The lesions show bright signal intensity in T₁-weighted images (Figure 2A) and shading in T₂-weighted images (Figure 2B). with no enhancement on post-contrast subtracted images. No signs of malignant

transformation. There is a linear plaque-like lesion seen on the posterior uterine wall associated with tethering of rectal wall representing deep pelvic endometriosis.

There was also a well-defined umbilical lesion seen in a few sequences. It measured 1.2×1 cm and showed intermediate to low signal intensity in T₂-weighted images, and bright signal intensity in T₁ post-contrast images (Figure 2C), representing umbilical endometriosis.

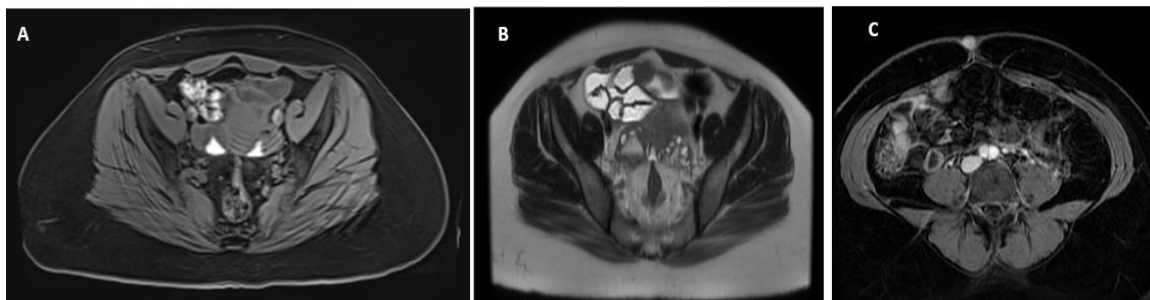


Figure 2: MRI (A) Axial precontrast T₁ WI, and (B) Axial T₂ WI shows bilateral ovarian endometrioma and deep pelvic endometriosis. (C) Axial T₁ post contrast show umbilical small hemorrhagic lesion represent endometriosis.

The gynecologist presented the surgical option to the patient. The patient refused and started an oral hormonal therapy (Dienogest): one tablet 2 mg daily. However, the patient had another MRI on September

1st, 2022, to evaluate the progress. The second MRI showed slight interval reduction in the size of the umbilicus nodule (Figure 3 a and b), currently measuring 0.8 × 0.8 cm (was 1.3 × 0.9 cm). No intra-abdominal extension, sinus or fistulous tract formation.

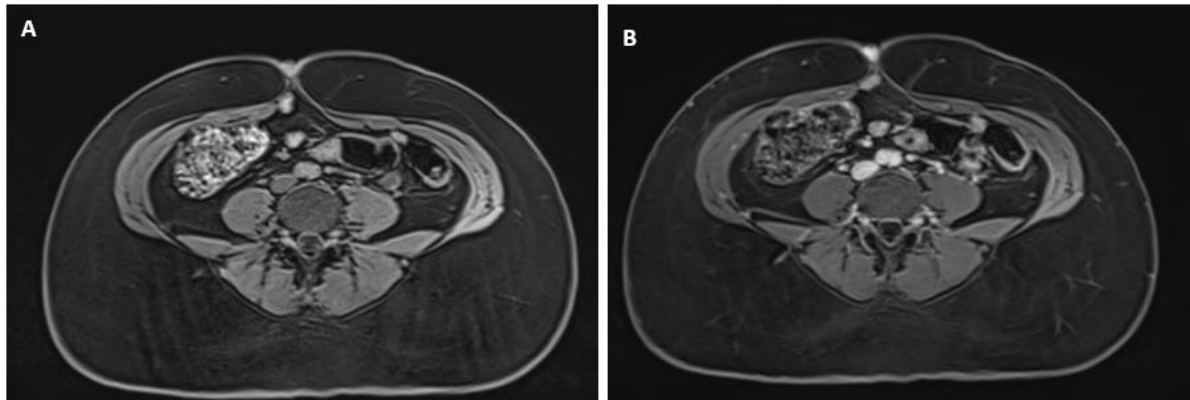


Figure 3: Follow up MRI after three months post Dienogest treatment. A and B axial T1 pre and post contrast images, showed slightly reduction in the size of the umbilicus endometriosis (comparison with Figure 2C).

Discussion

Endometriosis is a benign condition that occurs during the productive age in women. However, one of the rare disorders of endometriosis location-wise is the umbilical endometriosis [1]. Umbilical endometriosis has been divided into primary and secondary umbilical endometriosis depending on the causes; either after laparoscopic or open procedures which are secondary. The primary happened unexpectedly. The first-time umbilical endometriosis was mentioned was in 1886 by Villar [1]. For this reason, the term Villar's nodule was used to describe patients with primary umbilical endometriosis. The common symptoms are flesh-colored nodules, in some cases red, or brown nodules, pain, bleeding, and swelling. The

pain and swelling will increase during menstruation [2]. MRI sensitivity is superior to detecting small lesions. According to a study done in 2002, MRI sensitivity and specificity to detect biopsy was proven 69% and 75%. The study was done on 36 women and the detection was confirmed in 25 women [4]. For treatment, most cases with umbilical endometriosis have been treated with surgery [5]. In this case, the patient rejected the surgical option and preferred a hormonal treatment. According to the three MRI done during different periods of time, there was noticeable slight reduction in the size of the umbilicus nodule between the pretreatment MRI and the second. The patient's pain decreased, and the bleeding stopped. This result was observable on the patient after one month of the treatment.

Conclusion

Primary umbilical endometriosis is a very rare disorder, particularly in single

nulliparous patients. According to the literatures, surgical option is recommended and offers a satisfactory result. However, medical treatment needs to be researched.

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