

Chronic Umbilical Discharge

An unusual presentation of endometriosis

*Sadaf Jafferbhoy,¹ Panas Symeonides,¹ Melanie Levy², Muhammad H. Shiwani,¹

تدفق سري مزمن

عرض غير عادي للانتباد البطاني الرحمي

صفد جافربوي، باناس سيمونيدس، حنيف شيواني، ميلاني ليفي.

الملخص: يعتبر الانتباد البطاني الرحمي أحد التشخيصات التفريغية لأية إصابة سرية. هنا تقرير حالة مريضة عمرها 35 عاما مصابة بداء البول السكري النوع 2 حضرت إلى المستشفى بسبب إفراز سري مزمن لم يستجب لعدة مضادات حيوية. لم يظهر المسح بالموجات فوق الصوتية ولا الرنين المغناطيسي أي اعطالات ظاهرة. تم استئصال السرة بأكملها وأظهر فحص الأنسجة وجود انتباد بطاني رحمي. كان هذا الاستئصال الجراحي كافياً لتأكيد التشخيص وشفاء المريضة.

مفتاح الكلمات: الأنتباد البطاني الرحمي، إفراز مزمن، سري، تقرير حالة، المملكة المتحدة.

ABSTRACT: Umbilical endometriosis is an important differential diagnosis of any umbilical lesion. A 35-year-old type 2 diabetic woman presented with intermittent umbilical discharge which failed to respond to various antibiotics. An ultrasound scan and MRI scan failed to show any obvious abnormality. The umbilicus was excised and histology confirmed endometriosis. Surgical excision provides a definitive diagnosis and curative treatment for isolated endometriosis.

Keywords: Endometriosis; Discharge, Umbilical; Case report; Great Britain.

ENDOMETRIOSIS, A COMMON GYNAECOLOGICAL disorder, is characterised by the proliferation of endometrial glands and stroma outside the uterine cavity, and affects 5–10% of fertile women.¹ Extrapelvic endometriosis refers to endometriosis found at body sites other than the pelvis and can involve almost every organ in the human body, with a reported incidence of 8.9%.² Cutaneous endometriosis is a subtype of extrapelvic endometriosis and can present with various non-specific symptoms to a variety of specialist outpatient clinics, ranging from dermatology to gynaecology to general surgery. This sometimes makes the diagnosis more challenging. We present the case of a woman with solitary umbilical endometriosis who presented with intermittent umbilical discharge.

Case Report

A 35-year-old Caucasian woman presented to the surgical outpatient clinic at Barnsley District General Hospital, UK, with a 3-year history of intermittent umbilical discharge. She described an uncomfortable feeling in the umbilicus preceding her menses and a cyclical bloody discharge from its raised centre. This discharge was associated with her menstrual cycle and resolved spontaneously a couple of days after her menses ceased. She also admitted having occasional dysmenorrhoea and menorrhagia but there was no history of intermenstrual or postcoital bleeding. She was a type-II diabetic and had had two previous normal vaginal deliveries. There was no past surgical history of note.

She was treated in the community clinic with multiple courses of antibiotics for presumed umbilical infections. A physical examination was normal and an abdominal examination did not reveal any masses. On closer inspection of the

Departments of ¹General Surgery and ²Pathology, Barnsley District General Hospital, Barnsley, UK

*Corresponding Author e-mail: sjafferbhoy@doctors.org.uk



Figure 1: Gross appearances of specimen with raised nodule slightly visible in centre.

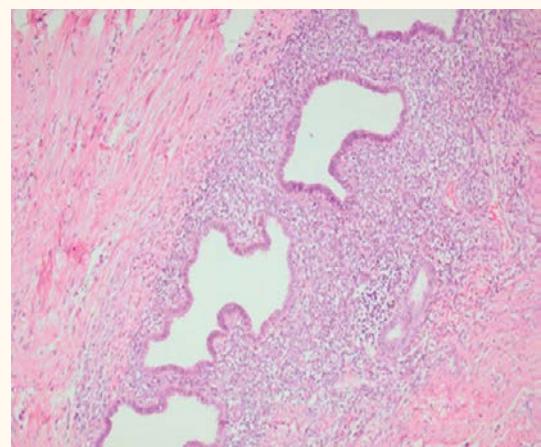


Figure 2: Immunohistochemical staining with CD-10 ($\times 20$ magnification showing the presence of endometrial glands and stroma.

umbilicus, a non-tender indurated skin lesion of normal flesh colour was noted.

A pelvic ultrasound and a magnetic resonance imaging (MRI) scan revealed a normal uterus and ovaries with no evidence of adnexal masses. A tiny enhancement at the umbilicus with no underlying soft tissue abnormality was noted on the MRI scan. Due to the inconclusive investigations, the decision was made to proceed to an excision biopsy of the umbilicus. The exploration of the umbilical cavity under general anaesthesia revealed abnormal growth at the cicatrix and a wide excision of the umbilicus was performed [Figure 1]. The histology revealed the presence of endometrial tissue with no evidence of malignancy [Figure 2].

Discussion

Endometriosis is the presence of endometrial stroma and glands outside the boundaries of the uterus which responds to the cyclical hormonal fluctuation.³ It affects 7% of women of child-bearing age, with mean presentation at 34 years, and is most commonly found in other pelvic structures like the ovaries, fallopian tubes, and pelvic ligaments. The literature includes reports of extrapelvic endometriosis of nearly all other body tissues including the intestinal tract, urinary tract, and lungs, and surgical scars.⁴ Pelvic disease usually presents with pain that worsens around the time of menstruation and a history of menorrhagia, dysmenorrhoea, and infertility. Extrapelvic disease

is more difficult to diagnose due to the variety of symptoms that result from the different tissue involvement. In addition, 44% of all women with endometriosis are asymptomatic and the diagnosis is incidental at the time of a laparoscopy for unrelated symptoms.⁵

Solitary umbilical lesions occur in 0.5–1% of women with endometriosis. They were first reported by Villar in 1886; hence, the lesions are sometimes called Villar's nodules.⁶ Villar's nodules can present spontaneously or in the scar tissue following abdominal or pelvic procedures.⁷ Although the exact pathogenesis is not known, a number of hypotheses have been suggested to explain endometriosis. The theory of endometrial tissue implantation in the pelvic structures due to retrograde menstruation is most widely accepted. For extrapelvic endometriosis, transport of endometrial cells occurring at the time of surgery or via lymphatic and vascular routes has been suggested. Scars seem to have a tendency to attract endometrial tissue and the umbilicus behaves as a physiological scar, making this site susceptible to developing endometriosis. Another theory refers to the potential of coelomic cells to differentiate into peritoneal and endometrial cells.^{4,6,8} Malignant degeneration of endometriosis has been reported in patients with long-standing and recurrent endometriosis.⁹

Umbilical endometriosis can present, like in our case, with a history of cyclical bleeding from a slightly tender nodule which self-resolves.¹⁰ This can occur in isolation, but other gynaecological

symptoms, like menorrhagia and dysmenorrhagia, should prompt further investigations to exclude pelvic disease.¹¹ The diagnosis can be difficult and a high index of suspicion and awareness of the condition is necessary by the clinician. A study by Douglas *et al.* revealed that out of 34 cases of extra-pelvic endometriosis, a high percentage presented to general surgical clinics with symptoms ranging from a change in bowel habits to palpable abdominal masses.² In our case, the patient was misdiagnosed and treated with multiple courses of antibiotics in community medical centres before being referred to a secondary care centre.

The differential diagnoses of an umbilical swelling are malignant melanoma or other intra-abdominal malignancies, granulomas, umbilical hernias, urachal or simple cysts, and lipomas. A number of tools have been suggested in the literature to investigate umbilical endometriosis including fine-needle aspiration, pelvic ultrasound scans, computed tomography (CT) scans, MRI scans, dermoscopy, and, more recently, high-frequency Doppler sonographic imaging.⁶ Ultrasound findings are often non-specific and a wide spectrum of disorders presenting as a mass in the abdominal wall should be considered in the differential diagnosis.¹² In a series, ultrasound-guided fine needle aspiration (FNA) was found to be inconclusive in 75% of cases.¹³ The use of dermoscopy can be helpful in the pre-operative evaluation of such lesions. De Giorgi *et al.* described specific dermoscopic features of endometriosis as homogenous reddish pigmentation with small globules called red atolls and may be a useful modality in getting a pre-operative diagnosis.¹⁴ Another report by Wu *et al.* emphasised the usefulness of high-frequency Doppler scans for diagnosing subcutaneous endometriomas.¹⁵ MRI is particularly helpful in studying the extent and biological behaviour of lesions, and in planning operative resectioning accurately and safely, particularly in cases where extensive lesions infiltrate deeper layers of the abdominal wall.¹⁶

In our case, neither an ultrasound nor an MRI scan showed any conclusive evidence of endometriosis; therefore, we proceeded to an excision biopsy of the umbilicus. Although medical treatment with antigenadotrophin agents can be used, this provides only temporary relief.^{2,4,5,7} The treatment for cutaneous endometriosis is mainly

surgical, preferably performed at the end of the menstrual cycle when the lesions are small in order to achieve a minimal excision.⁶ The surgical technique may vary depending on the size and extent of the lesions, ranging from a simple excision with wide margins to an *en bloc* excision of the umbilicus. A gynaecological examination and hormonal evaluation is recommended after excision of the cutaneous endometriosis but whether systematic laparoscopy should be performed is a debatable issue.^{17,18}

The prognosis for cutaneous endometriosis is good. Recurrence is rare following a surgical excision, and is usually attributed to inadequate excision.¹¹ However, malignant transformation, including histological subtypes such as endometrioid carcinoma, clear cell carcinoma, adenosarcomas, and serous carcinomas has been reported and should be suspected in recurrent or rapidly growing lesions.¹⁹

Conclusion

Solitary umbilical endometriosis is rare but can present to primary and secondary care centres. Awareness of the condition is paramount for clinicians, who should consider endometriosis in the differential diagnosis of umbilical lesions. Surgical excision is the treatment of choice and provides a histological diagnosis. Gynaecological evaluation is recommended after excision, especially if the patient is symptomatic for pelvic endometriosis.

References

- Bulun SE. Endometriosis. *N Engl J Med* 2009; 360:268–79.
- Douglas C, Rotimi O. Extragonal endometriosis: A clinicopathological review of a Glasgow hospital experience with case illustrations. *J Obstet Gynaecol* 2004; 24:804–8.
- Techapongsatorn S, Techapongsatorn S. Primary umbilical endometriosis. *J Med Assoc Thai* 2006; 89:1753–5.
- Majeski J, Cragg J. Scar endometriosis developing after an umbilical hernia repair with mesh. *South Med J* 2004; 97:532–4.
- Seleem MI, Al Hashemy AM, Obeid MA. Umbilical endometriosis: A diagnostic dilemma. *Kuwait Med J* 2002; 34: 303–5.
- Chatzikokkinou P, Thorfinn J, Angelidis K, Papa

- G, Trevisan G. Spontaneous endometriosis in an umbilical skin lesion. *Acta Dermatoven APA* 2009; 18:126–130.
7. Al-Saad S, Al-Shinawi HA, Ashok M. Extra-gonadal endometriosis: Unusual presentation. *Bahrain Med Bull* 2007; 29:1–11.
 8. Zollner U, Girschick G, Steck T, Dietl J. Umbilical endometriosis without previous pelvic surgery: A case report. *Arch Gynecol Obstet* 2003; 267: 258–60.
 9. Obata K, Ikoma N, Oomura G, Inoue Y. Clear cell adenocarcinoma arising from umbilical endometriosis. *J Obstet Gynaecol Res* 2013; 39:455–61.
 10. Lee A, Tran HT, Walters RF Yee H, Rosenman K, Sanchez MR. Cutaneous umbilical endometriosis. *Dermatol Online J* 2008; 14:23.
 11. Kerr OA, Mowbray M, Tidman MJ. An umbilical nodule due to endometriosis. *Acta Derm Venereol* 2006; 86:277–8.
 12. Hensen JH, Van B V, Pulyeart JB. Abdominal wall endometriosis: clinical imaging and imaging with emphasis on sonography. *AJR Am J Roentgenol* 2006; 186:616–20.
 13. Singh M, Sivinasen K, Ghani R, Granger K. Caesarean scar endometriosis. *Arch Gynecol Obstet* 2009; 279:217–9.
 14. De Giorgi V, Massi D, Mannone F, Stante M, Carli P. Cutaneous endometriosis: Non –invasive analysis by epiluminescence endometriosis. *Clin Exp Dermatol* 2003; 28:315–17.
 15. Wu YC, Tsui KH, Hung JH, Yuan CC, Ng HT. High-frequency power Doppler angiographic appearance and microvascular flow velocity in recurrent scar endometriosis. *Ultrasound Obstet Genecol* 2003;21:96–7.
 16. Busard MP, Mijatovic V, van Kuijk C, Hompes PG, van Waesberghe JH. Appearance of abdominal wall endometriosis on MR imaging. *Eur Radiol* 2010; 20:1267–76.
 17. Agarwal A, Fong YF. Cutaneous endometriosis. *Singapore Med J* 2008; 49:704–9.
 18. Fedele L, Frontino G, Biachi S, Borruto F, Ciappina N. Umbilical endometriosis: A radical excision with laparoscopic assistance. *Int J Surg* 2010; 8:109–11.
 19. Modesitt SC, Tortolero-Luna G, Robinson JB, Gershenson DM, Wolf JK. Ovarian and extraovarian endometriosis-associated cancer. *Obstet Gynecol* 2002; 100:788–95.