# Endometriosis of the liver

## Introduction

Endometriosis is a common gynaecological condition, defined as the presence of endometrial-like tissue outside the uterus, triggering a chronic inflammatory reaction. The symptoms of endometriosis vary and can range from pelvic pain, dyspareunia, menstrual disturbances and infertility, to being completely asymptomatic. It is thought to affect between 2 and 10% of the general female population, rising to 50% of infertile women.

Although endometriosis has been described in almost all the organs of the body, hepatic endometriosis remains one of the rare presentations. This article discusses a 23-year-old presenting with symptoms of pain, who was found at laparoscopy to have an area of endometriosis on her liver. It reviews the prevalence of hepatic endometriosis and considers the implications of this case.

## Discussion

The cause of endometriosis, first described by Rokitansky in 1860 in the pelvis, is still largely uncertain. How these endometrial cells may reach atypical locations such as the brain, the heart (Ichida et al, 1993; Ceccaroni et al, 2010) or, as in the current case, the surface of the liver, is hard to explain. The metaplasia of (peritoneal) epithelium caused by chronic inflammation or an unknown signalling cascade (Agarwal and Subramanian, 2010) may better explain the occurrence of endometriosis in obscure locations, such as in the heart or even the male.

There have been only 18 cases described in English literature, the first of which dates back to 1986 (Finkel et al, 1986). Twelve cases (67%) reported a previous history of endometriosis, mostly in a typical pelvic location, while six patients (33%) had no history of endometriosis. Also six of 18 patients (33%) were postmenopausal, showing this condition is not limited to women of reproductive age. Owing to the difficulty of diagnosing this condition by preoperative radiography (Asran et al, 2010; Fluegen et al, 2013), only seven (39%) of the previously described eighteen cases were diagnosed preoperatively (Fluegen et al, 2013). Thus it seems that a significant gynaecological history may not be helpful in the preoperative diagnosis of hepatic endometrioma.

While it is unusual to develop and sustain de novo endometriosis in a postmenopausal woman with or without hormone replacement therapy, reactivation of endometriosis has been occasionally described in postmenopausal women on hormone replacement therapy (Goh and Hall, 1992).

Inal et al (2000) looked at the previous seven reported cases and concluded that there were no magnetic resonance, computed tomography or ultrasound characteristics exclusively specific to hepatic endometrioma.

In most of the case reports, the presentation was initially considered to be liver cysts and was only retrospectively found to be endometriosis. Therefore in the authors' case, as the liver lesion was detected in the earlier stage, there is a risk that this could develop into a cyst.

Given the lack of diagnostic signs on imaging, the definitive diagnostic test is transhepatic biopsy. This should be discussed with each patient individually because of the potential adverse effects (risk of bleeding, possible dissemination of cells, biliary leakage) (Fluegen et al, 2013).

The treatment in most cases has been surgical or using ultrasonic aspirator. Lifelong hormone therapy may also reduce the symptoms, as described in the case of Inal et al (2000), but carries the risk of side effects and long-term dependence on medication.

An important question is whether a non-operative method such as hormonal manipulation (danazol and gonadotrophin analogues, e.g. buserelin, goserelin, leuprorelin) will be an effective sole treatment or prevent postoperative recurrence. There has been only one reported case of treatment with danazol after the patient refused surgery (Inal et al, 2000). However, there are no follow-up data available to date. **BJHM**

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### CASE REPORT

A 23-year-old fit and well woman had been suffering with severe cyclical abdominal and pelvic pain, which coincided with menstruation for several years. She was nulliparous, menstruating regularly and was on the oral contraceptive pill but had no comorbidities. She also described a constant shoulder tip pain. She had undergone a laparoscopy under her local gynaecology team, which had revealed extensive endometriosis, some of which was excised, after which she was referred to the authors' tertiary endometriosis centre.

The patient was assessed in clinic, and found to have ongoing shoulder tip pain. For this reason she underwent a repeat laparoscopy. During this procedure diffuse endometriosis was noted throughout the pelvis, including the rectovaginal space and over both uterosacral ligaments. There was also disease involving the diaphragm and a separate area was noted on the patient's liver.

The patient underwent extensive excision of the endometriosis, but the area on the liver was not excised because of the high risk of bleeding and because consent had not been obtained for this surgery.

# Gastroparesis in a patient with Parkinson's disease

## LEARNING POINTS

- Although apparently rare, the authors propose that hepatic endometrioma should be included in the differential diagnosis for a woman of any age presenting with a hepatic mass, with or without a history of pelvic endometriosis.
- As there are no characteristic features on non-invasive imaging investigations, invasive investigations like transhepatic biopsy may be necessary for diagnosis.
- Transhepatic biopsy has risks and should be considered with caution.
- Medical hormonal therapy is associated with risk of recurrence, and may not be effective for all cases.
- When hepatic endometriosis is detected at an early stage it is unclear whether these women need follow up to see if they develop endometriotic liver cysts and, if so, whether these require treatment if asymptomatic.

A 67-year-old man who had Parkinson's disease had recurrent hospital admissions for aspiration pneumonia and persistent vomiting. There was associated weight loss, decreased appetite and abdominal distension.

Upper gastrointestinal endoscopy showed oesophagitis, retained food in the stomach and duodenum without any evidence of obstruction, erosions, ulcers or masses. Computed tomography of the abdomen with oral contrast (*Figure 1a*) showed delayed gastric emptying with massively distended stomach but no evidence of gastric outlet obstruction. Gastric scintigraphy (*Figure 1*b) showed abnormal gastric emptying confirming gastroparesis. His symptoms improved with oral domperidone.

About 70–100% of patients with Parkinson's disease attending neurology clinics report delay in gastric emptying but the prevalence of symptomatic gastroparesis in people with Parkinson's disease is unknown (Hardoff et al, 2001). Gastroparesis seems to occur early in Parkinson's disease and its severity does not correlate well with disease duration, although predictors of severity include the presence of dose response fluctuations, rigidity and action tremor.

Domperidone and mosapride provide some therapeutic benefit (Asai et al, 2005). Pharmacological therapy for gastroparesis aims to reduce dose response fluctuations, not to reduce upper gastrointestinal symptoms (Heetun and Quigley, 2012).

It is unclear whether levodopa causes a further delay in gastric emptying in patients with Parkinson's disease or whether it partly corrects delay by ensuring more coordinated gastric contractions. The role of gastric electrical stimulation has not yet been defined in this population. **BJHM**

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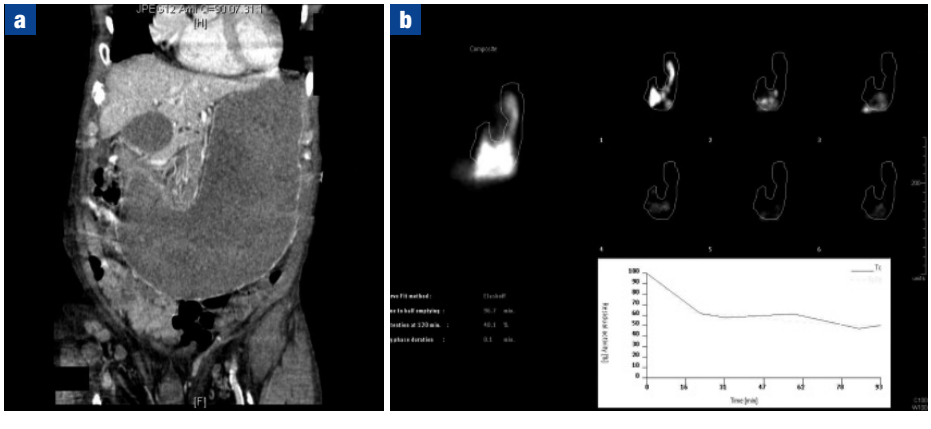
**Figure 1. a.** Massive stomach dilation with delayed emptying and no evidence of outlet obstruction. **b.** Gastric scintigraphy shows 50% of food is still in stomach after 2 hours, confirming gastroparesis.

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