

Abdominal Scar Endometriosis after Caesarean Section: Report of Five Cases

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ABSTRACT

Scar endometriosis is an under-appreciated or misdiagnosed phenomenon in general surgery and may eventually be more common than reflected in the literature. We herein report five cases of scar endometriosis that were treated in our surgical department one to five years after Caesarean section. Scar endometriosis should be considered when the symptoms are present in a cyclic manner, mostly after gynaecological operations and worsening during menstruation. Diagnosis is mainly based upon a high index of suspicion. The treatment of choice is surgical resection.

Keywords: Caesarean, endometriosis, extrapelvic, scar

Endometriosis en una Cicatriz Abdominal Después de una Cesárea: Reporte de Cinco Casos

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RESUMEN

La endometriosis en una cicatriz es un fenómeno subestimado y mal diagnosticado en cirugía general, y puede ser en el futuro más común que lo que se refleja en la literatura. Aquí se reportan cinco casos de endometriosis en cicatriz, tratados en nuestro Departamento de Cirugía, uno o cinco años tras una cesárea. Debe considerarse la posibilidad de endometriosis en cicatriz cuando los síntomas están presentes de una manera cíclica, principalmente después de operaciones ginecológicas y empeoramientos durante la menstruación. El diagnóstico se basa principalmente en un alto índice de sospecha. El tratamiento de elección es la resección quirúrgica.

Palabras claves: Cesárea, endometriosis, extrapélvico, cicatriz

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INTRODUCTION

Endometriosis, the presence of functioning endometrial tissue outside the uterus, is a common gynaecological condition. Its incidence in the general women population is 7–10% (1) and rises to 20–50% in fertile women (2–7). Rarely, endometriosis has extrapelvic localizations (8, 9) such as the kidney, pleura, pancreas and skin. In women who had undergone a pelvic operation, scar endometriosis is not rare (10–12) and its incidence is 1% after abdominal hysterectomy and 0.03 – 0.04% after a Caesarean section (13, 14). Scar endometriosis is an under-appreciated or misdiagnosed phenomenon in general surgery, and may eventually be more common than reflected in the literature. We herein report five cases of scar endometriosis that were treated in our

surgical department one to five years after Caesarean section.

CASE REPORTS

All five cases are summarized in Table 1.

Case 1

BH, a 29-year old woman, was admitted on March 2005 with a diagnosis of left inguinal hernia. She referred to pain and the presence of a small mass, especially after strain and weight lifting, in the left inguinal region and a history of severe dysmenorrhoea. She had two Caesarean sections, 5 and 3.5 years ago. Surgical exploration revealed a small mass of approximately 2.5 x 2 cm that resembled a haematoma which was subsequently removed. Microscopically, the mass was of endometrial origin, presenting as endometrial glands and stroma.

Case 2

KI, a 21-year old woman, presented on December 2005 for a painful swelling in the right abdominal region. The pain related to her menstrual cycles and she mentioned two Caesarean sections (the last one a year ago). Ultrasound and

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Table 1: Synopsis of reported cases

Patients	Age	Years since Caesarean section	Periodical symptoms	Swelling localization	U/S	CT	FNA	Preoperative diagnosis
BX	29	3.5	No	Left inguinal area	–	–	–	Inguinal hernia
KI	21	1	Yes	Right abdominal region	+	+	n/a	Suspicion of endometriosis
KE	36	2	Yes	Right lateral abdominal area	+	n/a	+	Suspicion of endometriosis
					(false negative)		(false negative)	
MB	26	1	Yes	Right lateral abdominal area	+	+	+	Endometriosis
							(positive)	
MK	29	1	No	Right margin of the surgical scar	–	–	–	Incisional hernia

computed tomography (CT) scan revealed the presence of a circumscribed tissue beneath the rectus abdominis muscle. She underwent a surgical procedure which revealed a mass 3.3 x 2.5 cm in the sheath of the rectus abdominis. Histology confirmed foci of endometriosis between the fibrous tissue (Figure).

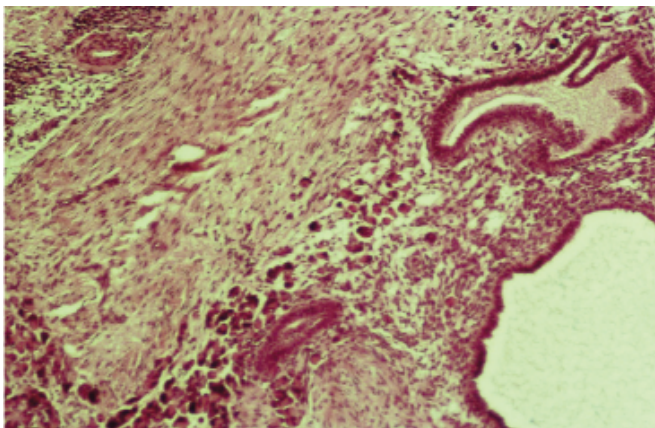


Figure: Haematoxylin – Eosin Stain x 400. Endometrial glands and stroma within fibrous tissue.

Case 3

KE, a 36-year old woman, presented on June 2007 for the presence of a mass at the right lateral abdominal area, near the margin of a Pfannenstiel incision for Caesarean section 2 years ago. She underwent ultrasound and fine needle aspiration (FNA) cytology which, eventually, were false negative. At operation, a brown coloured tumour 4.5 x 3 x 2 cm, with spongy texture, was revealed. Histologically, the mass consisted of fibrinous tissue with disseminated foci of endometriosis.

Case 4

MB, a 26-year old woman, was admitted on February 2009 for surgical removal of a painful mass at the right lateral abdominal wall. The patient's symptoms had a cyclic character accompanying her menstruation. She had undergone Caesarean section one year before. Fine needle aspiration cytology confirmed the initial suspicion of endometriosis. At operation, an elastic mass 2 x 2 cm beneath the external oblique aponeurosis was resected. Histology described tissue of endometrial origin.

Case 5

MK, a 29-year old woman, was admitted to hospital on August 2009, a year following Caesarean section. She complained of a painful swelling at the right margin of the surgical scar. The preoperative diagnosis was that of an incisional hernia. During the operation, a mass 3 x 2.5 cm beneath the external oblique aponeurosis was revealed. Microscopically, that mass was characterized by multiple foci of endometriosis between the fibrous tissue.

All five patients were followed-up for 1–5 years after operation with no signs of recurrence.

DISCUSSION

Extrapelvic endometriosis, though uncommon, can occur in subcutaneous tissues of surgical scars, or in the surrounding areas, following obstetric and gynaecological procedures. These implants are more likely to occur as a consequence of procedures performed during gestation including Caesarean section and normal delivery (episiotomy scar) or as a consequence of procedures that involved endometrial tissue, such as hysterectomy, ectopic pregnancies, salpingostomies and those performed during the first half of the pregnancy (10–15).

Several mechanisms can explain the incidence of scar endometriosis. Direct implantation of endometrial cells at the time of the operation is the dominant explanation. The lack of secure closure of the parietal and visceral peritoneum during Caesarean section and reduced care to avoid dissemination of endometrial cells may also be associated with endometriosis at the surgical scar. This scenario, however, is rare and the increased incidence particularly after Caesarean section [0.03%] (13–15) does not conform with this rate. Metaplasia of peritoneal mesothelial cells (16) which remain in the incision during the initial operation has also been reported. The theories of lymphatic or vascular dissemination (17), as well as retrograde menstruation are not widely accepted. Finally, the recent hypothesis that the presence of endometriosis is related to immunogenetic defects (18, 19) may explain its development *via* inadequate response of the peritoneal defensive system to the retrograde flow or implantation of endometrial tissue.

The real incidence of scar endometriosis is unknown, as only a few studies with a series of several cases are available (20–24). Difficulty to confirm the diagnosis is the most common factor of missed cases. The presence of a mass at the surgical scar, especially after gynaecological procedures, with symptoms that accompany menstruation is pathognomonic of endometriosis. In our series, diagnosis was incidental in two out of five cases, in which scar endometriosis mimicked an inguinal and an incisional hernia respectively. According to other reports, scar endometriosis can also mimic a lipoma, a cyst, an abscess or an incisional granuloma (25).

The diagnosis of scar endometriosis is difficult to establish purely based on clinical examination. Ultrasonography is non-specific and its main role is to exclude incisional hernia. Computed tomography (26, 27), Magnetic Resonance Imaging [MRI] (27), ultrasonography (28) and FNA (29) have been reported as diagnostic with variable results. In our cases, neither ultrasound, nor CT scan assisted in diagnosis. Samples from two patients were submitted for FNA. The diagnosis was accurate in one, while in the other, it was false negative.

Hormone therapy, with oral contraceptives, progesterone and gonadotropin-releasing hormone analogues, has not been shown to be of consistent benefit and recurrence is common on cessation of therapy. The treatment of choice remains the wide surgical excision to healthy margins, providing both diagnostic and therapeutic intervention. The presence of residual endothelial tissue is associated with recurrences. As ectopic endometrial tissue can theoretically undergo malignant transformation, histologic evaluation is necessary.

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