

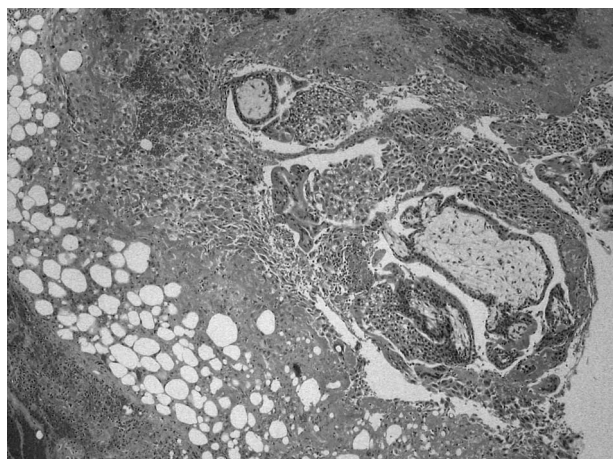


Figure 1. Histopathology section of implantation site showing chorionic villi and trophoblast in apposition to omental fat (lower left); haematoxylin-eosin (H&E) stain, magnification $\times 100$.

(Hornemann et al. 2008; Khalil et al. 2006). In our patient, however, laparoscopy did not detect the omental pregnancy and was in fact misleading. It was only the rise in β -HCG levels that alerted us to the possibility of an ongoing ectopic pregnancy. With

the benefit of hindsight, we would question our decision to observe the patient when the β -HCG levels rose following the negative laparoscopy. It would seem more appropriate to perform a laparotomy or a repeat laparoscopy at this stage.

Educational message

Women in whom ectopic pregnancy is suspected should be closely monitored following a negative laparoscopy and the possibility of an omental pregnancy should be considered.

Declaration of interest: The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

References

- Atrash HK, Friede A, Hogue CJ et al. 1987. Abdominal pregnancy in the United States: frequency and maternal mortality. *Obstetrics and Gynecology* 69:333–337.
- Hornemann A, Holl-Urich K, Finas D et al. 2008. Laparoscopic management of early primary omental pregnancy. *Fertility and Sterility* 89:991.e9–e11.
- Khalil A, Aslam N, Haider H et al. 2006. Laparoscopic management of a case of unexpected omental pregnancy. *Journal of Obstetrics and Gynaecology* 26:475–476.

Correspondence: S. Behjati, 39 South Hill Park, London NW3 2ST, UK. E-mail: sam.bhjati@gmail.com

DOI: 10.1080/01443610902984946

Imperforate hymen is associated with elevated serum CA125 and CA19-9 levels: A reappraisal

G. A. PARTSINEVELOS, A. RODOLAKIS, D. LOUTRADIS & A. ANTSAKLIS

1st Department of Obstetrics and Gynaecology, 'Alexandra' Hospital, University of Athens, Medical School, Athens, Greece

Case report

A 12-year-old girl was referred to our department with a suspected cystic tumour of the left adnexum diagnosed by ultrasound scan. Tumour markers had been asked and high levels of CA125 (1,727 U/ml) had been found, whereas AFP and β hCG were normal. She complained of lower abdominal pain mainly located in the left fossa iliaca of 2 weeks' duration. The patient was premenarchal with normally developing secondary sexual characteristics.

Clinical examination along with sonographic assessment and CT scan led to the diagnosis of imperforate hymen with haematometra and haematocolpos (Figure 1). The patient was surgically treated with stellate incisions through the hymenal membrane and excision of the individual segments. Finger pressure to the vaginal canal from the rectum accomplished drainage of accumulated menses.

On postoperative day 3, a blood sample for tumour markers determination was obtained. Surprisingly, not only CA125 (277 U/ml) but CA19-9 (960 U/ml) was elevated (CA19-9 had not been determined preoperatively). CEA (2.2 ng/ml) and CA15-3 (17 U/ml) were within normal values. Furthermore, ultrasound scan confirmed successful surgical correction. CA125 and CA19-9 were

235.3 U/ml and 540.27 U/ml, respectively 2 weeks after the operation and subsided to normal values (33.3 U/ml and 13.5 U/ml) 6 weeks later. The girl reported a regular menstrual pattern thereafter.

Discussion

Imperforate hymen is a congenital obstructive anomaly of the female reproductive tract which can remain occult until menarche, when cyclic abdominal pain with pelvic distension and discomfort may emerge. Accumulation of cervical and vaginal secretions and menstrual blood may lead to hydrocolpos/haematocolpos and hydrometra/haematometra. Rarely, haematosalpinx and haemoperitoneum have been reported.

CA125 is a serum tumour marker for epithelial non-mucinous ovarian carcinoma and other malignant neoplasms. However, false positives can occur with benign conditions like pelvic inflammatory disease, endometriosis as well as physiological conditions like pregnancy and menstruation. CA125 is normally expressed in mesothelial cells of pleura, pericardium and peritoneum and in tubal, endometrial and endocervical epithelium (Hoskins et al. 2004). Elevated levels in imperforate hymen may result from



Figure 1. CT scan demonstrating haematometrocolpos resulting from imperforate hymen.

Correspondence: G. A. Partsinevelos, 1st Department of Obstetrics and Gynaecology, 'Alexandra' Hospital, University of Athens, Medical School, 80 Vasilissis Sofias Avenue, 11528, Athens, Greece. E-mail: partsiobgyn@yahoo.com

DOI: 10.1080/01443610902984979

overexpression of CA125 in endometrial and endocervical epithelium (Buyukbayrak et al. 2008).

CA19-9 is a tumour marker for pancreatic, gastric, colonic and mucinous ovarian carcinoma. Benign conditions are also associated with elevated CA19-9. Pathophysiological mechanisms include inflammation or proliferation of non-cancerous tissue, obstruction of CA19-9 discharge pathways and malfunction in organs that metabolise CA19-9 (Ito and Gejyo 1999). The first two of them may explain elevated CA19-9 serum levels in case of imperforate hymen.

Recently, the assumption that imperforate hymen might be included in the benign conditions causing elevated serum CA125 and CA19-9 levels was put forth (Buyukbayrak et al. 2008). Although more cases are needed, our case may reinforce this tentative statement for the present.

Declaration of interest: The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

References

- Buyukbayrak EE, Ozyapi AG, Karsidag YK et al. 2008. Imperforate hymen: a new benign reason for highly elevated serum CA19-9 and CA125 levels. *Archives of Gynecology and Obstetrics* 277:475–477.
- Hoskins WJ, Perez CA, Young RC et al. 2004. Principles and practice of gynaecologic oncology. 4th ed, London: Lippincott Williams and Wilkins. p 157–159.
- Ito S, Gejyo F. 1999. Elevation of serum CA19-9 levels in benign diseases. *Internal Medicine* 38:840–841.

Laparoscopic 'day case' management of an 'endometrioma' within the broad ligament

M. I. RIZZUTO & F. ODEJINMI

Department of Obstetrics and Gynaecology, Whipps Cross University Hospital NHS Trust London, UK

Introduction

Endometriosis is a common benign gynaecological condition. Most common location for endometriosis is posterior segment of the pelvis (Al-Fozan et al. 2003). Endometriosis within the broad ligament is extremely rare, and arises from either mesonephric or paramesonephric cysts (Persaud and Anderson 1977).

We report two cases of endometriosis in the broad ligament presenting as a large tumour which were successfully treated by operative laparoscopy.

Case report 1

A 27-year-old Caucasian woman presented with a history of chronic pelvic pain, unresponsive to analgesia or the oral contraceptive pill. An ultrasound scan showed a well-delineated round mass suggested an ovarian endometrioma and 4 cm in size with elevated CA125: 145.

At laparoscopy, both ovaries were normal. There was, however, a 4 cm well-defined mass in the left broad ligament attached to the left lateral aspect of the uterus separate from the ovary. The mass was excised using a combination of bipolar diathermy and the Harmonic scalpel™ (Ethicon endosurgery). The defect in the broad ligament was closed using 3/0 monocryl. The patient was discharged the same day. Histology confirmed a paramesonephric cyst with presence of endometriosis (Figure 1).

Case report 2

A 34-year-old woman presented with a 10 year history of chronic pelvic pain and infertility. She was known to suffer from endometriosis and had undergone three laparoscopies and diathermy treatment of some endometriotic deposits.

Preoperative ultrasound suggested an 'endometrioma' measuring 4 × 3 × 4 cm on the left ovary. At laparoscopy, a