CASE REPORT

Massive ascites due to abdominal pregnancy

J.A.Ross, E.Hacket, F.Lawton and D.Jurkovic 1

Early Pregnancy and Gynaecology Ultrasound Unit, Academic Department of Obstetrics and Gynaecology, King’s College School of Medicine and Dentistry, University of London, Denmark Hill, London SE5 8RX, UK

1To whom correspondence should be addressed

We describe a case of an abdominal pregnancy which presented in the first trimester with rapid accumulation of blood-stained ascites. The ascites resolved completely following surgical removal of a gestational sac from the peritoneal cavity. The pathophysiology of ascites in this case may be similar to that in cases of ascites in other non-malignant gynaecological conditions.

Key words: abdominal pregnancy/ascites/surgery

Introduction

Abdominal pregnancy is a rare form of ectopic gestation, accounting for only 1% of cases. In the first trimester, the clinical presentation is usually similar to that of a tubal ectopic pregnancy. Occasionally the diagnosis may not be made until the second or third trimester when intrauterine growth retardation or oligohydramnios develop. Our case illustrates an unusual presentation of a rare condition: rapid accumulation of ascites as a presenting feature of an abdominal ectopic pregnancy.

Case report

A 32 year old primigravid black woman was referred to our unit with a 2 week history of increasing abdominal distention and slight vaginal bleeding. She had a history of 8 weeks amenorrhoea and a positive pregnancy test. The patient had a regular menstrual cycle and this was a spontaneous conception. She had undergone a laparotomy and gastrocystostomy for a congenital cyst of the pancreas 4 years previously. Following surgery she developed intraperitoneal adhesions and had episodes of subacute bowel obstruction which were managed conservatively. Otherwise, past medical and surgical history was unremarkable. Ultrasound scans performed before presentation to our unit at 6 and 7 weeks gestation failed to reveal the presence of either intra- or extraterine pregnancy. A further opinion had been sought at a private clinic the day prior to admission, when ultrasound examination showed a large fluid-filled structure in the pelvis which was interpreted as an ovarian cyst.

On admission, the patient was a slim woman who looked well and was not in severe pain. Her vital signs were normal. There was no evidence of lymphadenopathy. On palpation the abdomen was distended with fluid, and the liver and spleen were not palpable. There was no guarding or rigidity on abdominal examination and bowel sounds were normal. On vaginal examination the uterus was anteverted and normal size, there was no cervical excitation and no adnexal masses palpable. On speculum examination, a normal cervix and brown vaginal discharge were noted.

Laboratory investigations revealed a haemoglobin concentration of 9.4 g/dl. White cell and platelet counts were normal. Electrolytes, creatinine, liver function tests and amylase concentration were also normal. The urinary pregnancy test was positive, and serum β-human chorionic gonadotrophin (β-HCG) 446 IU/l (First International Reference). Chest X-ray was normal. An abdominal ultrasound scan demonstrated normal liver and kidneys and a large amount of echogenic fluid in the abdomen consistent with ascites. Free loops of bowel were seen within the fluid, which distinguished the ascites from a peritoneal pseudocyst. Transvaginal scan showed an empty uterus, normal ovaries and a large amount of free fluid in the pelvis. A 35×33 mm cystic corpus luteum was noted in the right ovary. A 9×7 mm gestational sac containing a small yolk sac was located deep in the Pouch of Douglas (Figure 1). The sac appeared to be attached to the pelvic peritoneum and could not be displaced by applying gentle pressure with the tip of the ultrasound probe. The diagnosis of an ectopic pregnancy, probably abdominal, was made.

At laparotomy, 3 l of brown, blood-stained ascites was aspirated. There were extensive intra-abdominal adhesions with a few loops of small bowel firmly adherent to the posterior surface of the uterus. Both tubes and ovaries were fixed with adhesions to the pelvic sidewalls and surrounding bowel loops, which made inspection difficult. Both tubes were tortuous and there was no bleeding point suggestive of recent tubal rupture. A small cystic corpus luteum was seen in the right ovary and there was no ovarian pathology. The Pouch of Douglas was partially obliterated with adhesions. The bowel, omentum, pelvic and para-aortic lymph nodes were normal on inspection and palpation. There were extensive adhesions in the epigastrium which prevented palpation of the diaphragm, but the liver felt normal. The adhesions in the Pouch of Douglas were divided and a gestational sac identified behind the uterus.

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firmly adherent to the pelvic peritoneum of the Pouch of Douglas. The sac was removed and diathermy used to arrest bleeding from the implantation site.

The patient’s postoperative recovery was uneventful and on follow up visits one and three months after the operation there was no clinical or ultrasound evidence of reaccumulation of the ascites. Serum β-HCG was 244 IU/l 2 days after the operation and 15 IU/l after 1 week. Histology showed fragments of a pregnancy sac, chorionic villi and blood clot, confirming the diagnosis of abdominal pregnancy. Cytology of the ascitic fluid did not reveal any malignant cells, and microscopy and culture were negative.

Discussion

Ascites in a young woman may be secondary to liver, pancreatic or renal disease, pelvic or abdominal tumours, and infection such as tuberculosis. Gynaecologists will usually only encounter patients with massive ascites if an ovarian tumour is suspected, or when a woman undergoing assisted conception develops ovarian hyperstimulation syndrome. However, rapid accumulation of blood-stained ascites is also a rare presentation of endometriosis (Brews, 1954). Twenty-nine cases have since been described in the English language literature (Spitzer and Benjamin, 1995; El-Newhi et al., 1995). Most cases occur in nulliparous black women. The ascites is a blood-stained exudate, and the diagnosis of endometriosis is only made at exploratory laparotomy after exclusion of systemic and hepatorenal pathology. A right sided pleural effusion may also be present, mimicking Meigs’ syndrome or a malignant ovarian tumour. Abdominal pregnancy is not known to be associated with maternal ascites, although free peritoneal fluid was found in 10% of cases reviewed by Stanley et al. (1986).

The pathogenesis of the ascites in our case is unknown. Failure of the ascites to reaccumulate after the gestational sac had been removed suggests that the pregnancy was the primary aetiological factor. The intraperitoneal bleeding may have occurred either due to tubal abortion or rupture, or from the implantation site in the Pouch of Douglas. Our patient also had extensive pelvic and intra-abdominal adhesions which may have obstructed the lymphatic vessels draining the peritoneal cavity via the diaphragm and thus prevented resorption of blood. We postulate that persistence of red cells within the peritoneal cavity caused irritation and inflammation of the peritoneum resulting in the production of ascitic fluid which did not reaccumulate once drained, and the source of bleeding removed. A similar mechanism has been proposed to explain ascites associated with endometriosis (London and Parmley, 1993) and one case with chronic pelvic inflammatory disease reported by Berek and Darney (1979). It is interesting that our patient was a young black woman. In 18 cases of ascites complicating endometriosis where the race of the patient was defined, 14 were black, four oriental and one woman was white. Although pelvic adhesions were documented in 24 of the 30 reports of ascites with endometriosis, whether adhesions affected the subphrenic space is often not recorded. It may be that in a similar way that there is racial predisposition to keloid scarring of the skin, there may be extensive adhesions formed in response to endometriosis or surgery. Occlusion of lymphatic vessels secondary to adhesion formation would explain why ascites accumulates rapidly if peritoneal irritation occurs in these patients.

As well as reporting an unusual presentation, our case re-emphasizes the need for careful ultrasound assessment of every haemodynamically stable patient with a suspected ectopic pregnancy. Whenever a pregnancy is not visualized in either the uterus or tubes, unusual locations such as the cervix, cornua, ovaries and Pouch of Douglas should be checked. These rare forms of ectopic pregnancy are generally more dangerous than tubal ectopics, and misdiagnosis in these cases may have grave clinical consequences. Conversely, prompt recognition may facilitate either medical treatment or conservative surgery (Ben-Rafael et al., 1995). The presence of unexplained ascites in a patient with a positive pregnancy test and no intrauterine gestation sac may be associated with an abdominal pregnancy, and should be investigated further by laparoscopy to avoid delaying surgical intervention.

References


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