

Caesarean delivery scar pregnancy [CDSP]: A case report

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ABSTRACT

Caesarean scar pregnancy is a rare form of ectopic pregnancy. It is a dangerous condition that can potentially lead to uterine rupture and severe haemorrhage or even a secondary abdominal pregnancy. If it progress further in pregnancy it is likely to present as placenta accrete/increta with a high morbidity and mortality. Its early diagnosis can be challenging, and the optimal treatment has not been determined. We report a case of an ectopic pregnancy in a caesarean section scar, which was initially misdiagnosed despite using ultrasound. Although the use of ultrasound in combination with serum levels of human chorionic gonadotrophin [hCG] in the diagnosis of ectopic pregnancy is well established, the diagnosis of a rare kind remains difficult. However, early diagnosis allows appropriate management planning to preserve uterine integrity and future fertility. The surgical treatment includes curettage, laparoscopy, laparotomy with hysterotomy and excision of the gestational mass. A medical approach with systemic and /or intralesional methotrexate application, oral mifepristone and possibly local injection of potassium chloride or tricosanthin has been proposed by itself, or combined with surgical procedures.

Key Words: Caesarean delivery, scar, ectopic pregnancy.

INTRODUCTION

Caesarean scar pregnancy is rare. Ranking among the rare forms of ectopic pregnancy, caesarean scar pregnancy is a dangerous condition that can potentially lead to uterine rupture and severe haemorrhage or even a secondary abdominal pregnancy. Its early diagnosis can be challenging, and the optimal treatment has not been determined.

We report a case of an ectopic pregnancy in a caesarean section scar, which was initially misdiagnosed despite using ultrasound. Although the use of ultrasound in combination with serum levels of human chorionic gonadotrophin [hCG] in the diagnosis of ectopic pregnancy is well established, the diagnosis of a rare

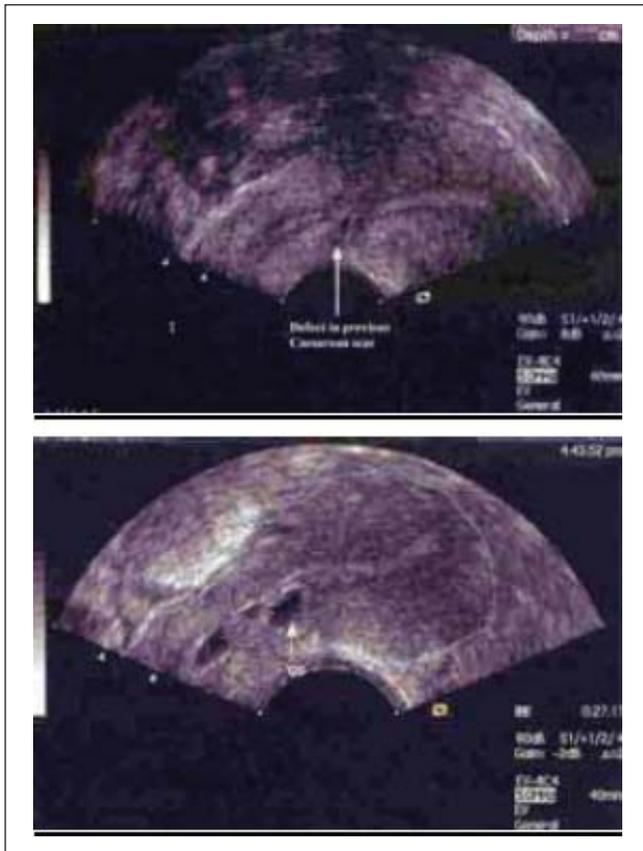
kind remains difficult. However, early diagnosis allows appropriate management planning to preserve uterine integrity and future fertility [1]. The surgical treatment includes curettage, laparoscopy [6], laparotomy [8] with hysterotomy and excision of the gestational mass. A medical approach with systemic and /or intralesional methotrexate application, oral mifepristone and possibly local injection of potassium chloride or tricosanthin has been proposed by itself, or combined with surgical procedures [1, 9, 10].

CASE REPORT

A 32 year old local lady, [gravida 3, and para 2] presented to Al Wasl hospital emergency on 20/05/09 with complains of severe abdominal pain, low backache for 1 day, and also difficulty in passing urine for 1 week. She did not have any bleeding per vaginum. Her previous obstetric history revealed two low transverse caesarean sections performed 7 and 5 years ago because of cephalopelvic disproportion at term. She had gestational diabetes on insulin in the last two pregnancies. The patient was not using any form of contraception

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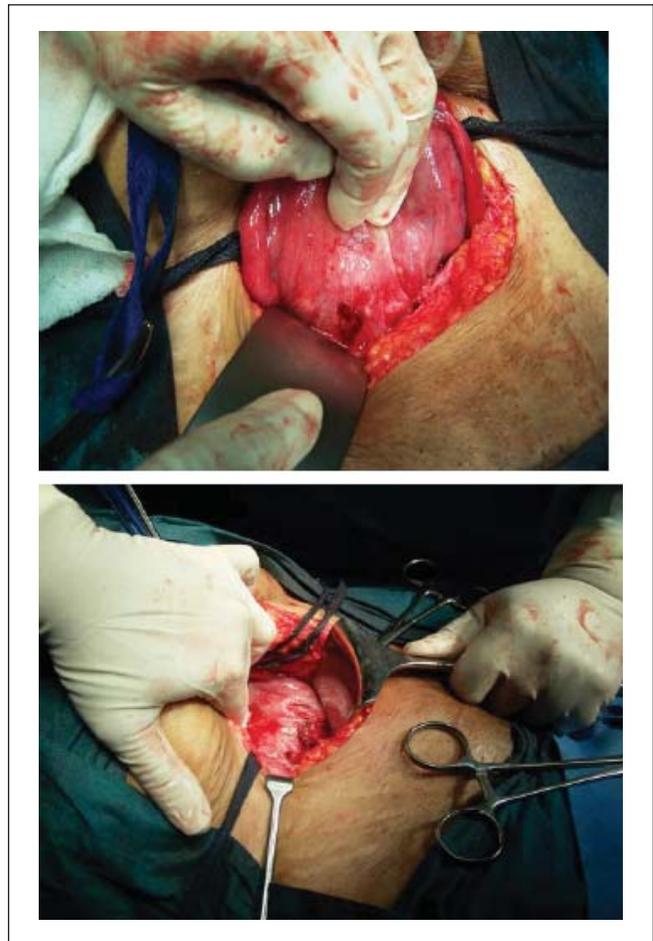
DOI: 10.5530/ijmedph.4.2011.11



Picture 1: Ultrasound picture of the caesarean delivery scar pregnancy

The patient gave a history of having on and off pain for last 3 weeks. Her last menstrual period was on 1/04/09, and her pregnancy test was positive, which made her 7 weeks pregnant. She consulted a private doctor twice and she was reassured of having a normal intrauterine pregnancy. As she was reassured she travelled to spend 2 weeks holiday. She did have bouts of pain on and off but did not see a doctor, but took some pain relieving drug.

On admission she was in severe pain, but did not look pale. Pulse-68/min, blood pressure 90/60mm. Abdominal examination revealed a soft abdomen, with mild tenderness in the lower part of abdomen mainly suprapubic region. There was no guarding or rigidity of the abdomen or rebound tenderness. Vaginal examination revealed a bulky uterus with cervical excitation being positively demonstrated. No separate mass was felt but tenderness in the fornix was present. There was no vaginal bleeding. Transvaginal ultrasound showed a bulky empty uterus with hyperechoic echoes in the lower part of uterus, with no free fluid in pouch of Douglas. Blood investigation showed the haemoglobin level to be 12.5



Picture 2: Area on the lower part of uterus where the pregnancy was implanted. Note the holes on the scar of lower segment caesarean section

gm/dl and BhCG was 1088 IU. Her previous BhCG on 28/04/09 was 843IU. A diagnosis of? Early pregnancy with cystitis,? Ectopic pregnancy was made and patient admitted for observation.

After few hours of admission her pain increased and was reviewed again and a repeat ultrasound showed an empty uterus with a thickened endometrium and a right sided hyperechoic mass adjacent to the uterus was seen with mild amount of fluid in the pouch of Douglas. Repeat haemoglobin level was 10.5 gm/dl, a diagnosis of leaking ectopic was established. Patient and husband were made aware of the diagnosis and counselled and consented. Laparoscopic surgery/laparotomy was discussed and the couple opted for laparotomy. Laparotomy by lower transverse incision under general anaesthesia was performed and the findings were as follows. It was an easy entry into the abdomen, with few flimsy adhesions. There was haemoperitoneum with 600 ml of fresh blood, uterus

was bulky, both tubes and ovaries were normal with no evidence of ectopic pregnancy. On suction of blood from pouch of Douglas there was a mass present protruding from the previous scar line in the central region. A wedge resection and the mass was excised with the uterine scar and haemostasis obtained. Uterine cavity was closed, with closure of abdominal cavity. The products were sent for histopathological examination which confirmed products of conception. She received antibiotics and one dose of 50mg methotrexate in view of trophoblast invading the uterine wall. The BhCG was repeated after 5 days and the level was only 78 IU. She made a speedy recovery and was discharged on the 5th day after surgery. Weekly BhCG was done and the level of BhCG went down to nonpregnant levels in two weeks. She was reviewed 6 weeks later in gynae clinic and the histology was discussed. Further contraception was discussed and she wished to start combined oral contraception.

DISCUSSION

A pregnancy that implants within the myometrium of a prior caesarean delivery scar is known as caesarean delivery scar pregnancy [CDSP]. It is a rare form of ectopic pregnancy and carries serious maternal morbidity and morbidity from massive haemorrhage if ruptured.

The exact cause of CDSP is unclear. Theories describe small uterine scar dehiscences that create microscopic tracts between myometrium and endometrial canal. A pregnancy may thus enter the myometrium through these tracts. With CDSP, the gestation sac is completely surrounded by fibrous scar tissue and myometrium is separated from the endometrial cavity. As the pregnancy grows, the myometrium that overlies the conceptus is progressively thinned and eventually ruptures.

These ectopic pregnancies are rare and develop in approximately 1:2000 pregnancies [Jurkovic, 2003]. In women with prior caesarean delivery, the rate increases to 0.15% [Seow 2004]. In addition to caesarean delivery these pregnancies may follow other uterine surgeries such as curettage and myomectomy. However, other than prior uterine surgery, other risk has not been defined. [CHuang, 2003; Jurkovic, 2003; Maymon, 2004; Rotas, 2006].

Women with CDSP may be asymptomatic or present with minimal symptoms. However, these patients commonly present similarly to women with tubal ectopic pregnancy, and they may complain of bleeding or lower abdominal pain. In these women a transvaginal sonography is typically employed. However, differentiating between a

cervico-isthmic pregnancy and a CDSP can be difficult. According to Godin 1997] transvaginal ultrasound combined with Doppler is a reliable tool for diagnosis. Ultrasound imaging criteria to diagnose CDSP are as follows:

1. Empty uterine cavity and cervical canal;
2. Development of the gestational sac in the anterior uterine wall at the isthmus [presumed site of previous caesarean section scar];
3. Evidence of functional trophoblastic circulation on Doppler examination, defined by the presence of an area of increased peritrophoblastic vascularity on color Doppler examination;
4. The absence of healthy myometrium between the bladder and sac, allowing differentiation from cervico-isthmic implantation.

There are no universal treatment guidelines for CDSP, owing to its rarity. Methotrexate, hysterectomy, or wedge resection of the prior scar has each been used to treat CDSP. In this decision process, pregnancy size, absence or presence of rupture, BhCG levels, desire for future childbearing, and patients haemodynamic status weigh heavily. Of note, removal of the pregnancy by dilatation and curettage is not recommended as severe haemorrhage complicates a majority of cases so treated [Rotas, 2006]. Moreover, as with other ectopic pregnancies, observation without treatment is not recommended because of life threatening haemorrhage that may attend uterine scar rupture.

Wedge resection of the pregnancy within the scar and hysterotomy repair via laparotomy. However, laparoscopic excision has been described by several and this approach seems reasonable in expert hands, provided the patient is haemodynamically stable [Lee, 1999; Wang, 2006]. In those not desiring fertility, hysterectomy may be considered. For women who are stable without any signs of ectopic rupture, systemic methotrexate may be effective [Shufaro, 2001; Ravhorn, 1997]. However, because a fibrous layer often encases these pregnancies, intragestational injection of methotrexate may be given solely or combined with systemic treatment to improve efficacy [Nawroth, 2001; Seow, 2004]. In those treated medically, rupture of the scar and heavy bleeding may infrequently follow medical treatment. Accordingly, some choose to combine bilateral uterine embolisation with medical management to minimize haemorrhage should rupture occur [Ghezzi, 2002; Rahman, 2005; Sugarwara, 2005].

Future pregnancy outcomes for women with treated CDSP is limited. Review of the literature by Rotas [2006]

shows higher rates of repeat CDSP in these women. For those with intrauterine pregnancies, a greater incidence of uterine rupture at term is noted. Accordingly, repeat caesarean section upon achievement of fetal lung maturity and prior to labour seems prudent for women with prior CDSP.

ACKNOWLEDGEMENT

I would like to thank Dr. Saroj. K who operated on the case and gave me all the details.

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