CASE REPORT

Embryo Implantation in the Region of a Previous Caesarean Section Scar and Scar Dehiscence in Second Trimester: A Rare Case Report

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About the Author

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Introduction

The first case of a Caesarean scar site ectopic pregnancy was reported in 1978 [1]. Implantation of a pregnancy within a caesarean fibrous tissue scar is considered to be the rarest form of ectopic pregnancy and a life-threatening condition. This is

because of the very high risk of uterine rupture and the maternal complications related to it. The most probable mechanism that can explain scar implantation is that there is invasion of the myometrium through a microtubular tract between the caesarean section scar and the endometrial canal. A recent case series estimates an incidence of 1:2226 of all pregnancies, with a rate of 0.15 % in women with a previous caesarean section and a rate of 6.1 % of all ectopic pregnancies in women who had at least one caesarean delivery [2]. Although expectant and medical management have been reported in early pregnancy, termination of a caesarean scar pregnancy by laparotomy and hysterotomy, with repair of the accompanying uterine scar dehiscence, may be the best treatment option in later weeks of pregnancy.

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Case

A 28-year-old female unbooked, uninvestigated, G4P3L3, with 4-month amenorrhoea and prior history of two normal deliveries followed by a caesarean 14 months back for

placenta previa presented on October 10, 2015, for lower abdominal pain since 2 days, mild vaginal bleeding and vomiting since morning. On examination, patient was conscious, oriented and pale. Her pulse rate was 114/min, blood pressure was 90/60 mmHg, and respiratory rate was 16/min. Her urine pregnancy test was positive. Per abdomen examination revealed distention with guarding and rigidity. Per

speculum examination showed pale vaginal mucosa, slight bleeding through os. Uterine size could not be made out on per vaginal examination, but both fornices were found to be free and tender. Investigations were sent; meanwhile, the patient was resuscitated with fluids. Haemoglobin reported was 7.5 %, and rest of investigations were normal. Beta-HCG was 58,500 mIU/ml. Transabdominal ultrasound

Fig. 1 Transabdominal ultrasound image showing empty uterine cavity and cervical canal

Fig. 2 Transabdominal ultrasound image showing gestational sac in lower uterine segment with thinning of previous scar

Fig. 3 Scar dehiscence at right side found during laparotomy

Fig. 4 Amniotic sac with fetus in situ with attached placenta after removal from dehiscence site

revealed empty uterine cavity with a nonviable embryonic echo inside the sac measuring 5.2 cm at crown–rump length (CRL) corresponding to 12 weeks situated in lower part of uterus near cervix (Figs. 1, 2). Scar site thinning was seen at the right side around the sac. Cervical canal is empty. Free fluid was seen in abdominal cavity and pouch of Douglas. Exploratory laparotomy was done under general anaesthesia. Approximately 1.5 litres of haemoperitoneum with ruptured uterine scar from right side was found (Fig. 3). Amniotic sac with placenta was seen attached at the rupture site (Fig. 4). Uterus size was around 6 weeks. Sac with placenta was removed out with excision of involving part of uterine muscle followed by repair of uterus in two layers with bilateral tubal ligation after taking consent. Sample of removed tissue was sent for histopathological examination. One unit of packed cells was transfused intraoperatively and one unit post-operatively. Beta-HCG after 1 week was 2923 mIU/ml and after 4 weeks was 2.5 mIU/ml. Histopathology report found chorionic villi lined by cytotrophoblasts surrounded by fibrous tissue.

Discussion

Caesarean scar pregnancy is the rarest kind of ectopic pregnancy, but because of the increasing number of caesarean deliveries its incidence has been rising to be about 1/2000 normal pregnancy. Of all reported pregnancies, 1–2 % are ectopic, which include the caesarean/

hysterotomy scar ectopic pregnancy whose incidence is about 6.1 % of all ectopic pregnancies. Caesarean scar pregnancy may present from as early as 5–6 weeks to as late as 16 weeks [2, 3]. In our case, patient was admitted at 13 weeks. A study done by Ash et al. [4] found the mean gestational age at diagnosis 7.5 ± 2.5 weeks, and the time interval between the last caesarean section and the caesarean scar pregnancy was 6 months to 12 years. In our case study, the time interval was 14 months. Diagnosis is usually made by transvaginal ultrasound. The ultrasonographic criteria known as Jurkovic's criteria defines caesarean pregnancy as (a) an empty uterine cavity and cervical canal, (b) a gestational sac in the anterior part of uterine isthmus and (c) the absence of healthy myometrium between the bladder and the gestational sac [5]. Additional diagnostic information can be obtained by colour flow Doppler. Several types of conservative treatment have been used such as dilatation and curettage, excision of trophoblastic tissues (laparotomy or laparoscopy), local and/or systemic administration of methotrexate, bilateral hypogastric artery ligation associated with trophoblastic evacuation and selective uterine artery embolization combined with curettage and/or MTX administration. But many patients finally require surgical treatment as study done by Stevens et al. [6] reported the failed combination of local and systemic methotrexate management finally requiring surgical intervention. In our case, patient presented with hypovolaemic shock with ruptured ectopic at scar site. We did laparotomy with evacuation of products and repair of uterus in two layers and bilateral tubal ligation.

Conclusion

Embryo implantation in the region of a previous caesarean section scar is a rare but potentially catastrophic complication of a previous caesarean birth. Hence, it is important to have early and accurate diagnosis to avoid complications and preserve fertility.

Compliance with Ethical Standards

Conflict of interest All authors declare that they have no conflict of interest.

Ethical Approval All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2008 (5).

Informed consent Informed consent was obtained from all the participants.

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