



Is Midtrimester Scar Rupture Associated With Placental Invasion ?

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Abstract

Here, we present a case of caesarean scar rupture in a 35-year-old G3P2L1NND1 (previous 2 LSCS) 23 +5 weeks of gestation in a diagnosed case of placenta previa with focal percreta. She presented to emergency department with preterm labour. During the intraoperative period, we discovered a scar rupture with placenta protruding through it. A classical caesarean section followed by obstetric hysterectomy was done. It is essential to properly assess pregnant mothers who had a previous caesarean scar and chances of placenta accreta spectrum disorders. If the caesarean scar rupture is diagnosed timely then life threatening complications would be prevented.

Keywords: Placenta accreta spectrum disorders, Previous 2 caesarean section, caesarean scar rupture, obstetric hysterectomy

Introduction

Caesarean section is the most commonly performed operative procedure in women. One of its complications is placenta accreta spectrum disorders. ^[1] Maternal morbidity and mortality has increased in past years because of it. Placenta accreta spectrum includes range of pathologic placental adherence including placenta accreta, increta and percreta. ^[2] Caesarean scar rupture is associated with factors like type, site and number of uterine incisions, inter-pregnancy interval and factors that lead to excessive uterine distension. Hence, timely evaluation, diagnosis and management requires to avoid such complications.

Case report

A 35 years old, G3P2L1NND1 (previous 2 lower segment caesarean section) 23 + 5 weeks of gestation came with pain in abdomen since 2 hours in emergency

room. She had no other complaints. She had no history of hypertension, diabetes mellitus, thyroid disorders or any other medical condition. She had previous 2 lower segment caesarean section, 1st caesarean section was done 9 years ago in view of placenta previa and 2nd caesarean section was done 9 months ago at 30 weeks of gestation in view of previous caesarean section in labour. In the current pregnancy, she was referred from peripheral hospital in view of ultrasonography suggestive of? Placenta accreta spectrum in a case of previous 2 lower segment caesarean section at 18 weeks of gestation. MRI was done at 20 weeks of gestation and was suggestive of placenta previa with placenta increta with focal percreta.

At emergency presentation, she had mild pallor, her blood pressure was 110/60 mmHg, heart rate was 100 beats per minute. Abdominal examination confirmed uterine activity with scar tenderness. Speculum examination revealed minimal spotting. Emergency laparotomy was planned. Interventional radiology reference was done and bilateral internal iliac artery balloons were placed. Patient shifted to operating room. An emergency laparotomy was performed. Upon exploration, scar rupture with placenta percreta noted. The lower uterine segment was not formed. Hemoperitoneum of approximately 300 cc was noted. A classical uterine caesarean section quickly performed to save the fetus. The placenta was left in situ and an obstetric hysterectomy was done. The patient received a total of 8 units of blood and 7 units of Fresh frozen plasma, 7 units of cryo and 6 units of platelets. The specimen was sent to pathology where the diagnosis of placenta percreta was confirmed.

Discussion

Placenta accreta spectrum (PAS) occurs due to atypical development of the decidua basalis that was most likely

altered by one or more prior caesarean section scars. ^[2]

The term PAS is used to describe:

- Accreta: attached of the endometrium
- Increta: invasion of the myometrium
- Percreta: invasion through the serosa

Risk factors include: multiparity, advanced maternal age ^[3] previous classical caesarean sections, prior myomectomy or uterine surgeries, prior endometrial ablation, prior multiple curettage, placenta previa. The most common factor was found to be prior caesarean delivery ^[4]. The consequences of uterine rupture in a placenta accreta spectrum depend on the time of diagnosis and delivery. ^[5]

The signs and symptoms of scar rupture are variable. The patient may present with abdominal pain, guarding, tenderness, distended abdomen with abnormal uterine contour, absent fetal heart activity, maternal tachycardia or hypovolemic shock.

Caesarean scar rupture is associated with short inter-pregnancy intervals (less than 12 months) and previous caesarean done before term. ^[3] When the inter-pregnancy interval is short, there is no adequate time for the smooth muscle of uterus to heal adequately and attain maximum strength. This makes the incompletely healed myometrium to be thinner and more susceptible to uterine rupture. ^[1] The myometrial layer's thickness in a previous caesarean section scar declines more significantly occurring between the second and third trimesters ^[6]. Myometrial thinning occurs in 0.6%–5% of post caesarean pregnancies and this increases risk of abnormal placentation, low birth weight, subsequent preterm delivery and peripartum hysterectomy. ^[8] Thus, the previous incision site is at increased risk of rupture during pregnancy and labour.

With ultrasonography or magnetic resonance imaging (MRI), PAS can be accurately diagnosed in utero

throughout pregnancy. In cases of PAS, following features can be seen

- Multiple placental lacunae
- Thinning of retro placental myometrium
- Absence of distinction between endometrium and myometrium
- Abnormal vascularity between uterine serosa and bladder in the form of bridging vessels.

In transvaginal ultrasound a total thickness of less than 4 mm is considered a thin scar, and a thickness less than 2.0 mm is linked to an increased risk of scar dehiscence and rupture.^[8] According to a systematic review, there is no significant difference in the incidence of caesarean scar rupture between single- and double-layer closure of the uterine incision following caesarean section.^[9]

Conclusion

The present case report is showing the finding of scar rupture and exposure of placenta through the caesarean scar intraoperatively in a previous caesarean section with PAS disorder. The previous caesarean section was done at 30 weeks of gestation when usually the lower uterine segment formation is not completed and the inter-pregnancy interval was just 9 months. So the uterine incision in previous caesarean section could be on upper uterine segment or the junction between upper and lower uterine segments. These factors can be associated with increased risk of scar rupture in subsequent pregnancy. So proper history taking, identifying high risk women, clinical examination, radiological investigations and timely diagnosis of scar rupture is to be done to prevent the maternal complications. It is important to differentiate it from disorders in the PAS, as prenatal imaging can be deceptive if not performed with the requisite expertise to distinguish between the two conditions. The above strategies can guide us the

management of these patients and when to terminate to avoid future consequences.

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Abbreviations

1. PAS : placenta accreta spectrum
2. LSCS : lower segment caesarean section
3. NND : Neonatal death

Legend Figures

Figure 1:



Figure 2:

