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Placenta percreta: A rare case report

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Abstract
Placenta percreta, a rare complication of pregnancy, is associated with significant postpartum hemorrhage often requiring emergency hysterectomy. Majority of these cases are seen in patients with history of previos LSCS with anterior low lying placenta. Here we present the case of fundal placenta percreta in a woman with previous one LSCS.

Keywords: placenta percreta, placenta accreta spectrum, subtotal hysterectomy

Introduction
Placenta percreta, the rarest and most severe form of placenta accrete spectrum, occurs when placenta extend through the entire myometrial layers and uterine serosa. The overall incidence of placenta percreta is extremely low with an incidence of 1 in 21000 pregnancies and majority of these cases are seen in patients with history of previos LSCS with anterior low lying placenta. The fundus of the uterus has thick myometrial lining and is seldom or almost never involved in percreta unless there is an history of fundal surgery in the past. Here we present the case of fundal placenta percreta in a woman with previous one LSCS.

Case report
A 23 years old G2P1L1 with 39 weeks 5 days of gestational age with previous one LSCS was admitted in labor room in view of short interconceptional period with rupture of membranes. Her previous LSCS was done 1 year back in view of meconium stained liqor with fetal distress. There was no history of previous abortions or suction evacuation. She was booked at a private institute with normal antenatal investigation reports. On Examination, her general condition was fair, Bp 110/80 mm of mercury in right arm in semirecumbent position, Pulse rate 84/min regular and palpable at all peripheral pulses. There was no pallor, icterus, cyanosis, clubbing or oedema. Per Abdomen examination was suggestive of a single live full term fetus with cephalic presentation and a regular fetal heart rate. Scar tenderness was absent. On per speculum examination showed clear liqor draining through the os. On per vaginal examination, Os was 1 cm dilated, 30% effaced with presenting part vertex with station at -3.An ultrasound done earlier showed a single live intrauterine fetus of 35 weeks of gestation with placenta at the fundus and normal liquor.

Patient was taken up for emergency LSCS with bilateral tubal ligation in view of previous LSCS with short interconceptional period with premature rupture of membranes. Intraoperatively, minimal adhesions were present and scar was thinned out. A live female baby of 3.2 kg was delivered. Baby cried immediately after birth. Placenta did not come out spontaneously. Entire fundus of the uterus was encroached by placenta. The serosa was of the uterus was breached by the placenta at the posterior aspect of the fundus and had started bleeding profusely. No other abdominopelvic organs were involved. Placenta percreta was suspected and in view of the profuse bleeding, blood and blood products were procured immediately and timely decision of hysterectomy was made. Subtotal hysterectomy was done with placenta in situ. [Figure 1]. The blood loss was about 2 litres. A total of 4 packed cells along with4 units of FFP were transfused. Patient was shifted to ICU. The postoperative recovery of the patient was uneventful and patient was discharged on the 7th Postoperative day. Histopathological findings confirmed absence of placental basal plate and presence of trophoblastic tissue in the myometrium and serosa.

Fig 1: Specimen of Subtotal hysterectomy showing incision site and placenta percreta at fundus.

Discussion

There are three levels of abnormal placental attachments according to the profundity of invasion, namely Placenta accreta - the utrine deciduas is absent and the chronic villi attaches to the myometrium directly. Placenta increta-the chronic villi invades into the myometrium. Placenta percreta-the chronic villi encroach through the myometrium and may permeate to close by organs [2, 3]. Placenta accreta occurs approximately in 1 out of 7000 pregnancies [4]. Out of these, about 75-80% are placenta accrete, about 17% are placenta increta and remaining are placenta Percreta [5].

Risk factors associated with placenta percreta are previous ceserean section, multiple pregnancies, advanced maternal age, placenta praevia, dilatation and curettage, endometritis and repetitive abortions [6]. In comparison to the rest of uterine cavity, the lower uterine segment proximal to the cervical canal contains relatively less decasualized tissue. In women with placenta previa undergoing cesarean delivery, the frequency of PAS increased with an increasing number of cesarean deliveries as follows [7]. First cesarean birth- 3 percent, second cesarean birth - 11 percent, third cesarean births- 40 percent, fourth cesarean births- 61 percent. In the absence of placenta previa, the frequency of a PAS in women undergoing cesarean delivery was much lower [7]. First cesarean birth-0.03 percent, second cesarean birth- 0.2 percent, third cesarean birth- 0.1 percent, fourth or fifth cesarean birth- 0.8 percent. In addition to previous cesarean delivery, uterine curettage or hysteroscopy surgery, myomectomy, endometrial ablation may result in further localized deciduas defect and consequently abnormal placentation. It is important to note that in a multivariate analysis, placenta previa appeared to be an independent risk factor for PAS (odds ratio [OR] 54; 95% CI 18-166), while prior uterine surgery was not (OR, 1.5, 95% CI, 0.4–5.1**)** [8]. In this case, though there was previous history of cesearean section, the site of invasion was not the lower segment or previous scar but at the fundus. We therefore assume abnormal or excessive trophiblast invasion to uterine fundus as the pathophysiology of aberrant placentation. Interestingly, the sex ratio associated with PAS favors females, which is opposite to the normal sex ratio in the general population, which favors males [9, 10].

As is evident by our case, the diagnostic value of sonography in prenatal diagnosis of asymptomatic placenta increta is uncertain. A positive predictive value of 78% and negative predictive value of 94% has been reported by Finberg *Et al*, but some authors suggested that sonography might detect only around 33% of cases of placenta accrete/increta [11, 12]. Placental lacunae (which appear as intraplacental sonolucent spaces) and disruption of the interface between the bladder wall-uterine serosa (bladder line) are the most reliable diagnostic sonographic findings. Color flow Doppler demonstrating turbulent ("chaotic") flow and/or bridging vessels are valuable confirmatory findings. If the ultrasound studies are inconclusive or ambiguous, magnetic resonance imaging (MRI) may be performed to clarify the diagnosis if this will affect patient management; however, the utility of the additional information gained by MRI is uncertain. MRI may be more useful than ultrasound in two clinical scenarios: (1) evaluation of a possible posterior PAS because the bladder cannot be used to help clarify the placental-myometrial interface, and (2) assessment of the depth of myometrial and parametrial involvement, and, if the placenta is anterior, bladder involvement. However, increased accuracy beyond that noted with ultrasound is unproven [13], Diagnosis is confirmed by histopathology. Postpartum histological findings show placental villi anchored directly on, or invading into or through, the myometrium, without an intervening decidual plate.

Surgical intervention has been suggested as the first line of treatment of placenta percreta as hysterectomy is required in approximately 93% of the cases. Conservative management is exclusively used in rare setting of the adjacent organ involvement such as bowel or bladder. Chemotherapeutic agents, especially Methotrexate, have been used with success in several patients. Furthermore, transcatheter embolization has been utilized [14]. Legro *et al*. [15] reported a successful non-surgical treatment of placenta percreta by Methotrexate chemotherapy in a patient who was able to carry a normal pregnancy 2 years later. In contrast to this study, Butt *et al*. [16] declared that conservative management with methotrexate chemotherapy is unsuccessful and would result in subsequent hysterectomy because of postpartum bleeding. In patients with extyreme desire of fertility, functional and anatomical uterine repair may lead to successful pregnancy. But Hysterectomy is the only lifesaving intervention in patients with severe internal bleeding [17]. In a non-severe life-threatening setting with small uterine rupture, surgical uterine repair might be feasible for those patients who have a tendency to remain fertile.

Conclusion

Placenta Percreta is a potential life threatening condition for both mother and the baby. It usually occurs at the site of previous section scar. This case highlights need of detail placental evaluation at 18-20 weeks scan irrespective of the location of placenta and previous scar. This would enable prenatal screening and diagnosis and help in counselling of the patient and her family regarding the suspected placental abnormality and an appropriate site and plan for delivery can be developed.

Preoperative preparation, including availability of surgical and radiological expertise, blood components for transfusion, and appropriate equipment, will improve the maternal and fetal outcome.

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