

A Prospective Study on Placenta Accreta Spectrum

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Abstract: *Placenta accreta spectrum, formerly known as morbidly adherent placenta, refers to the range of pathologic adherence of the placenta, including placenta accreta, placenta increta and percreta. A prospective study on placenta accreta spectrum was conducted in Govt. Rajaji Hospital Madurai from January 2020 to October 2020. The incidence of placenta Accreta Spectrum was found to be 0.54%. The most common risk factor was found to be previous caesarean deliveries. All cases were managed by Caesarean Hysterectomy and multiple blood transfusions. Maternal morbidity and mortality were found to be nil.*

Keywords: Placenta accreta spectrum, prior caesarean deliveries, Caesarean hysterectomy

1. Introduction

A prospective study was conducted in tertiary care centre at Govt. Rajaji Hospital, Madurai from January 2020 to October 2020. The following parameters like incidence, risk factors like advanced maternal age, previous number of caesarean deliveries, previous curettage, birth interval, parity and outcome were taken into consideration for the study. Placenta accreta spectrum is becoming more and more common nowadays due to increasing rate of caesarean section and advanced maternal age.

Aim

This study aims at estimating the incidence, risk factors, outcome of placenta accreta spectrum in Govt. Rajaji Hospital, Madurai.

2. Methodology

This is a prospective study on placenta accrete spectrum conducted for a period of 10 months from January 2020 to October 2020. This includes all patients already diagnosed through Obstetric Ultrasonography and MRI abdomen and pelvis. This also includes all patients diagnosed during that time as emergency cases. The incidence, risk factors and its outcome were estimated through this study. There are 12866 deliveries during this 10 months period from January 2020 to October 2020. Out of these there are 7 cases of placenta accrete spectrum with an incidence of 0.54% out of the 7 cases of placenta accrete, 2 cases were placenta increta. The most common risk factor was found to be prior caesarean delivery. Proper antenatal counselling must be provided regarding multiple blood transfusions, the need of caesarean hysterectomy, maternal morbidity and mortality were explained.

| Risk Factor | Number | Percentage |
|-------------------------|--------|------------|
| WITH PLACENTA PREVIA | 5 | 71.42% |
| WITHOUT PLACENTA PREVIA | 2 | 28.57% |

| Gestational Age At Delivery | No of Deliveries | Percentage |
|-----------------------------|------------------|------------|
| 34-35 WKS | 1 | 14.28% |
| 35-36 WKS | 2 | 28.57% |
| 36-37 WKS | 4 | 57.14% |

| Birth WT of Babies | No of Babies | Percentage |
|--------------------|--------------|------------|
| <2KG | NIL | 0% |
| 2-2.5KG | 3 | 42.85% |
| 2.5-3KG | 4 | 57.14% |

Maternal morbidity and mortality –NIL

Neonatal morbidity and mortality –NIL

Caesarean hysterectomy was done for all cases of placenta accrete and increta, 2 cases were done during emergency section. Blood and blood components were transfused for all patients according to the blood loss.

| Risk Factor | Number | Percentage |
|---------------------------------------|--------|------------|
| AGE | | |
| >30 YRS | 3 | 42.85% |
| 25-29YRS | 4 | 57.15% |
| >25 YRS | 0 | 0% |
| PARITY | | |
| 1 | 0 | 0% |
| 2 | 3 | 42.85% |
| 3 | 4 | 57.15% |
| Number of Previous Caesarean Delivery | | |
| 0 | 1 | 14.30% |
| 1 | 2 | 28.57% |
| 2 | 4 | 57.14% |
| Interval Between Last Child Birth | | |
| 24 Months | 5 | 71.43% |
| 12 TO 23 Months | 2 | 28.57% |
| <12 Months | 0 | 0% |

Important, in the absence of ultrasound findings does not preclude the diagnosis of placenta accreta.

Magnetic resonance imaging (MRI) is the other major tool used for the antenatal diagnosis of placenta accreta spectrum. Magnetic resonance imaging features associate with placenta accreta spectrum include dark intraplacental bands on T2-weighted imaging, abnormal bulging of the placenta or uterus, disruption of the zone between the uterus and the placenta, and abnormal or disorganized placental blood vessels. The accuracy of MRI for the prediction of placenta accrete spectrum is reasonably good, with a systematic review reporting sensitivities of 75-100% and specificities of 65-100%⁷

The most generally accepted approach to placenta accreta spectrum is caesarean hysterectomy with the placenta left in situ after delivery of the fetus (attempts at placental removal are associated with significant risk of hemorrhage). Optimal management involves a standardized approach with a comprehensive multidisciplinary care team accustomed to management of placenta accreta spectrum⁸. In addition, established

3. Discussion

Placenta accrete spectrum, formerly known as morbidly adherent placenta, refers to the range of pathologic adherence of placenta, including placenta accrete, placenta increta and placenta percreta. Adherent placenta can be classified into three categories 1) PLACENTA ACCRETA 2) PLACENTA INCRETA 3) PLACENTA PERCRETA. PLACENTA ACCRETA- Placenta accreta is defined as abnormal trophoblast invasion of part or all of the placenta into the myometrium of the uterine wall¹ placenta gets abnormally attached to the myometrium. PLACENTA INCRETA- Placenta invades into the myometrium. PLACENTA PERCRETA- Placenta penetrates through the myometrium. The most favoured hypothesis regarding the etiology of placenta accrete spectrum is that a defect of the endometrial - myometrial interface leads to a failure of normal decidualization in the area of the uterine scar, which allows abnormally deep placenta accreta spectrum. The incidence of placenta accreta spectrum is, increasing with increasing number of the prior caesarean deliveries^{2,3}. Risk factors include prior caesarean delivery, placenta previa, advanced maternal age, multiparity, prior uterine surgeries of curettage, and Asherman syndrome⁴.

The primary diagnostic modality for antenatal diagnosis is obstetric ultrasonography. Gray-scale abnormalities that are associated with placenta accreta spectrum include multiple vascular lacunae within the placenta, loss of the normal hypochoic zone between the placenta and myometrium, decreased retroplacental myometrial thickness (less than 1 mm), abnormalities of the uterine serosa-bladder interface, and extension of placenta into myometrium, serosa, or bladder.^{5,6}

The use of color flow Doppler imaging may facilitate the diagnosis. Turbulent lacunar blood flow is the most common finding of placenta accrete spectrum on colour flow Doppler imaging. Other Doppler findings of placenta accrete spectrum include increased subplacental vascularity, gaps in myometrial blood flow, and vessel bridging the placenta to the uterine margin^{5,6}. Although ultrasound evaluation is infrastructure and strong leadership accustomed to managing high-level postpartum hemorrhage should be in place, and access to a blood bank capable of employing massive transfusion protocols should help guide decisions about delivery location.

Delivery at 34 0/7-35 6/7 weeks of gestation is suggested as the preferred gestational age for scheduled caesarean delivery or hysterectomy. Early delivery is preferred if those with bleeding, preeclampsia, rupture of membranes, fetal compromise, labour and developing maternal comorbidities.

In the setting of hemorrhage a range of 1:1:1 strategy of packed cell, platelet, FFP is preferred.

4. Conclusion

Placenta accreta spectrum is common because of increased incidence of prior caesarean deliveries. Knowledge of risk factors and antenatal ultrasonogram and MRI imaging expertise can help to guide the diagnosis. Antepartum counselling about placenta accreta spectrum, the need of multiple blood transfusion and caesarean hysterectomy should be explained earlier. The management of placenta accreta spectrum should involve a multi disciplinary team in a tertiary level hospital to reduce maternal morbidity and mortality.

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