

Placenta Accreta-No More a Rare Occurance

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Abstract: Introduction: Placenta accreta, once a rare occurrence is now becoming an increasingly common complication of pregnancy mainly due to increasing rate of caesarean deliveries. Aims and Objectives: Of this study is to determine the incidence, the causes, the risk factors of increasing rate of placenta accreta and to evaluate its outcome. Materials and Methods: It is a prospective study of patients presenting to department of OBG, Osmania medical college and hospital, Hyderabad, between 1-07-2016 to 1-11-2016. Results: The incidence of placenta accreta in our study is 1 in 510, majority of which are associated with previous two LSCS and placenta previa. Thus we identify that the major risk factors for placenta accreta are Increasing order of prior caesarean deliveries, Previous caesarean with a coexisting placenta previa, scared uterus. Conclusion: In our study with proper anticipation, analysis and antenatal assessment we made prenatal diagnosis of placenta accreta in all the cases, this provided us a golden opportunity to make a planned multidisciplinary team approach for its management and achieve no mortality and acceptable morbidity. Hence antenatal diagnosis of the condition gives us prepaidness.

Keywords: placenta accrete, prior caesarean deliveries, placenta previa, peripartum hysterectomy

1. Introduction

Placenta accreta, once a rare occurrence is now becoming an increasingly common complication of pregnancy mainly due to increasing rate of caesarean deliveries. Its Incidence is drastically increasing from 1 in 4027 pregnancies in 1970, to 1 in 2510 pregnancies in 1980, to 1 in 533 pregnancies in 2002(1). Currently it is the most common indication for caesarean hysterectomy. The incidence of peripartum hysterectomy is quoted as 0.24–1.4 per 1000 births. Adherent placenta as a major indication for peripartum hysterectomy has risen from 5.4% to 46.5% over the last four decades.(1)

Placenta accreta occurs when all or part of the placenta attaches abnormally to myometrium. Three grades of abnormal placental attachment are defined based on invasion, Accreta– chorionic villi attach to the myometrium, rather than being restricted within the decidua basalis (75–78% of all cases), Increta– chorionic villi invade into the myometrium (17%). Percreta– chorionic villi invade through the myometrium (5–7%).(2)

2. Aims and Objectives

To determine

- 1) The incidence and causes of increasing rate of placenta accreta and
- 2) To evaluate its risk factors and outcome

3. Materials and Methods

This is a prospective study carried in Modern Government Maternity Hospital (MGMH), Osmania Medical collage Hyderabad, from 1 July 2016 to 1 November 2016 for a period of 5 months.

Inclusion Criteria

- 1) Cases delivered by caesarean section followed by hysterectomy

- 2) Cases of retained placenta.

Definition of placenta accreta was made based on clinical and histological criteria using term presence of the following:

- 1) Difficult manual or piecemeal removal of the placenta despite active management
- 2) Heavy bleeding from implantation site after removing the placenta.
- 3) Histological confirmation of a hysterectomy specimen

4. Results of our Study

Incidence

Table 1: Demonstrates significant rise in incidence 2016(4)2011(9)

| | | |
|---------------------------------|----------|-----------|
| Total No. Of Deliveries | 5302 | 13421 |
| Total No Of Lscs | 2553 | 5355 |
| Total No. Of Vaginal Deliveries | 2853 | 8066 |
| Total No. Of Accreta | 10 | 5 |
| Incidence | 1 in 530 | 1 in 2684 |

Same study done in same hospital in 2011 over a period of 9 months the incidence was 1 in 2684 and the same study done in 2016 for just 4 months demonstrated a steady rise in incidence of 1 in 530.



Figure 1: Total hysterectomy specimen of placenta increta



Figure 2: Intraoperative picture showing placenta increta

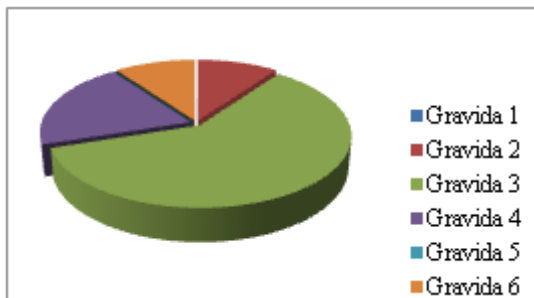


Figure 3: Association with parity

Placenta accreta is associated with multiparity, in our study it occurred maximum in gravida 3.

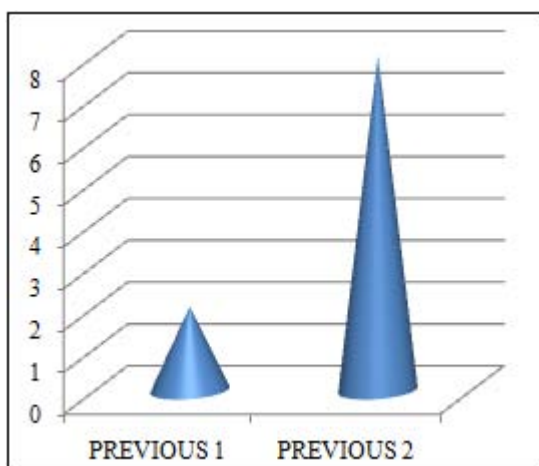


Figure 3: Association with previous caesarean

Placenta accreta is exponentially associated with number of caesareans, as in our study it is 80% associated with previous 2 caesarean.

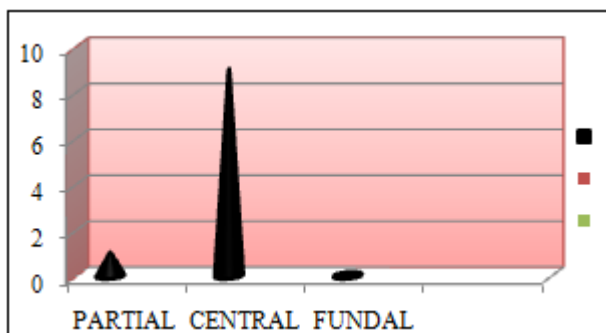


Figure 5: Association with placenta previa

Almost all the cases of placenta accreta in our study are associated with placenta previa,

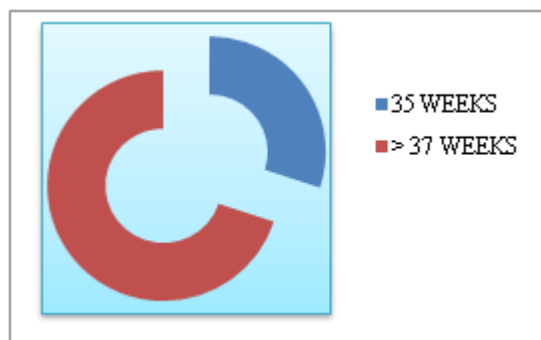


Figure 6: Association with gestational age

Majority of cases were electively timed at 37 weeks to avoid preterm complications to neonate.

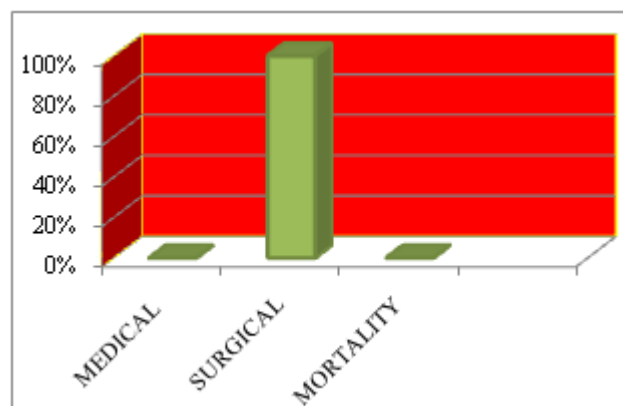


Figure 7: Approach of Management

As according to RCOG guidelines elective hysterectomy to be performed if the accreta is confirmed, we did the same for all our confirmed cases of placenta accrete(3).

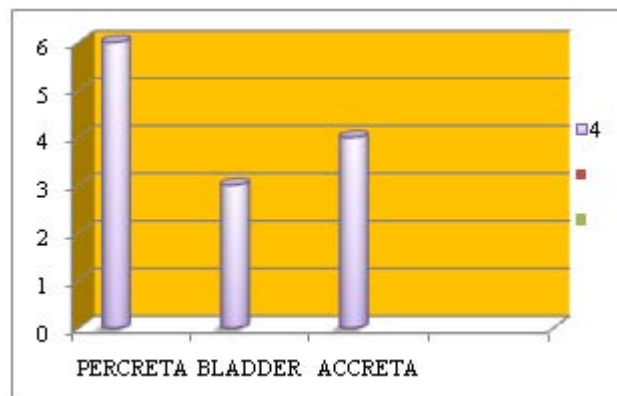


Figure 8: Association with type of placenta accreta

In our study 60% of cases were placenta percreta half of which involved bladder, and rest 40% of cases were placenta accreta.

5. Discussion

In 2002, ACOG estimated that incidence of placenta accreta has increased 10-fold over the past 50 years. This increasing rate is in parallel to increase in caesarean rate. From our study we identify that the most important cause for placenta accreta as previous cesarean with low lying placenta as

noticed in all cases 100%. We also identify other causes and risk factors as, Maternal age- all our patients were above 30yrs, 40% being above 35yrs coinciding with study done by Farhat nasreen.

Multiparty- all our patients were multiparus 100% similar to a study done by Farhat nasreen which showed cases of abnormal placentation is 7 times higher in multiparus when compared to primiparus, Prior uterine surgery-all our patients were previous cesarean, in a study done by Kathryn E.Fitzpatrick et all the estimated incidence of placenta accreta was 1.7 per 10,000 maternities overall, 577 per 10,000 in women with both a previous caesarean delivery and placenta praevia (5). Other causes as stated by literature are Prior uterine curettage, Uterine irradiation, Endometrial ablation, Asherman syndrome, Uterine leiomyomata, Uterine anomalies, Hypertensive disorders of pregnancy and Smoking.(4)

Table 2: Frequency of placenta accreta according to number of caesarean and presence or absence of placenta previa.(4)

| Caesarean delivery | Placenta previa | No Placenta previa |
|--------------------|-----------------|--------------------|
| First (primary) | 3.3 | 0.03 |
| Second | 11 | 0.2 |
| Third | 40 | 0.1 |
| Fourth | 61 | 0.8 |
| Fifth | 67 | 0.8 |
| Sixth | 67 | 4.7 |

Pathogenesis

The exact pathogenesis is unknown proposed hypothesis includes, maldevelopment of decidua, excessive trophoblastic invasion or combination of both. This decidual maldevelopment in placenta accreta is usually associated with previous instrumentation as in the case of prior cesarean sections or uterine curettage (8).

Diagnosis

Placenta accreta should be suspected in women who have both a placenta previa and a history of caesarean or other uterine surgery as done in our study. Most important factor affecting outcome is prenatal diagnosis by anticipating based on history, USG and MRI..Antenatal diagnosis has given us a golden opportunity for electively timing the procedure at around 36-37 weeks, hence we did USG as well as MRI for all our 10 cases and arrived timely diagnosis and planned multidisciplinary management for all our cases achieving appreciable results.

USG Features

- Loss of normal retro placental hypoechoic zone
- Multiple vascular lacunae within placenta swiss cheese appearance
- Blood vessels or placental tissue bridging utero-placental margin myometrial-bladder interface or crossing uterine serosa
- Retroplacental myometrial thickness less than 1mm
- Numerous coherent vessels visualized with 3-D power doppler in basal view.(4)

MRI Features

Chitra sivasankar et al state that MRI is more accurate in diagnosing a posterior placenta, placenta percreta, and for imaging morbidly obese patients. In 2012, the National Institute for Health and Clinical Excellence in the UK reported that MRI is more accurate at identifying adherent placenta than ultrasonography.(1) Hence in our study we did it for all the 10 cases to know the exact extent of placental invasion so that we could plan the surgery(1).

MRI Findings

- 1) Placental heterogeneity,
- 2) Mass effect of the placenta into the underlying bladder or extending laterally or posteriorly beyond the normal uterine contour,
- 3) Obliteration of the myometrial zone visible on initial uptake of gadolinium, and
- 4) A beading nodularity within the placenta .(8)

Biochemical Markers

Elevated maternal serum levels of alphaFP and free bHCG within the triple screening test have been reported to be associated with an increased risk of placenta accreta. Elevated serum level of creatine kinase also has been associated, though the mechanism is unclear, abnormality of placental-uterine interface may lead to leakage into the maternal circulation which may explain increase (4).

Histopathological Feature

Presently no antenatal diagnostic technique affords the clinician 100% assurance of either ruling in or ruling out the presence of Placenta accreta. The definitive diagnosis of placenta accreta is usually made on hysterectomy specimens when an area of accretion shows chorionic villi in direct contact with the myometrium and absence of decidua.(8)(7).

6. Management

Women with placenta previa overlying a uterine scar should be evaluated for the potential diagnosis of placenta accreta. The key factor determining the outcome is antenatal diagnosis. With our timely anticipation, analysis, assessment and planned multidisciplinary management we achieved no mortality and acceptable morbidity. Our multidisciplinary team consisted of gynecologic surgeon experienced in pelvic surgery, a blood bank team prepared to administer multiple blood components, experienced anesthesiologist, skilled urologists for bladder resection and repair as was needed in three cases of placenta percreta, intensivist for postoperative management and neonatologist. Preoperatively, the anticipated intraoperative approach should be clarified with the patient. When the patient requests conservative management to preserve fertility or for other reasons, the risks and benefits of this approach and criteria for abandoning conservative surgery should be discussed and documented. (4)

Total hysterectomy immediately after delivery without attempts of placental removal is, since 1972, the

recommended treatment option. Surgeons delivering the baby by caesarean section in the presence of a suspected placenta praevia accreta should consider opening the uterus at a site distant from the placenta, and delivering the baby without disturbing the placenta, in order to enable conservative management of the placenta or elective hysterectomy to be performed if the accreta is confirmed. Going straight through the placenta to achieve delivery is associated with more bleeding and a high chance of hysterectomy and should be avoided. Conservative management of placenta accreta when the woman is already bleeding is unlikely to be successful and risks wasting valuable time. If the placenta fails to separate with the usual measures, leaving it in place and closing the uterus and proceeding to a hysterectomy are both associated with less blood loss than trying to separate it. There are no randomised controlled trials comparing different surgical approaches for suspected placenta praevia accreta, but a recent observational review of 57 cases of suspected accreta demonstrated significantly reduced short-term morbidity (intensive care unit admission, massive blood transfusion, coagulopathy, urological injury, re-laparotomy) if the placenta was left in place and hysterectomy performed electively compared with attempting to remove the placenta first, the same is proved in our study also(3)(4).

Percreta- Bladder Invasion

In 3 cases bladder involvement was suspected, cystotomy was done to clarify the extent of invasion after devascularization of the uterus, and bladder was repaired. Attempts to dissect adherent bladder wall from uterus were discouraged because of the risk of significant bleeding from placental disruption.(4)

Conservative Management

Delivery by a caesarean section without hysterectomy by leaving the entire placenta or just a part that is adherent to myometrium in situ and to preserve the uterus can be done with close follow up for secondary PPH, as such cases usually end up with delayed hysterectomies due to secondary PPH as reported by a case study done by Minna Tikkanen et al(7). As all our patients were multiparous and were not willing for such risk we went ahead with best recommended management for such cases. Manual removal of densely adherent placental areas should not be tried because forceful separation may result in severe bleeding. Methotrexate postoperatively has been tried in several studies but has not given satisfying results(7).

Surgical Management

Total hysterectomy is the best recommended management. Subtotal hysterectomy is successful in some cases, but persistent bleeding from a lower uterine segment or cervical placental implantation site may preclude this approach as an alternative to total hysterectomy(4).

Hemodynamic Management

Intraoperatively, attention was paid to abdominal and vaginal blood loss. Early blood product replacement (1:1:1), with consideration of volume, oxygen-carrying capacity, and coagulation factors was done to reduce perioperative

complications. Use of recombinant activated Factor VIIa may be beneficial in the treatment of uncontrollable obstetric hemorrhage when the fibrinogen level is less than 100 mg(1)(4).

Randomized clinical trials and large cohort studies regarding the diagnosis and treatment of placenta accreta are lacking. Studies of these types are needed to determine optimal antenatal diagnosis and peripartum management of this potentially morbid condition. (4)

7. Conclusion

From our study we conclude that patients with PA are older and have higher parity. We also observed in our study that, women with both a prior caesarean delivery and placenta praevia have a high incidence of placenta accreta almost 100%. Hence there is a need to maintain a high index of suspicion of abnormal placentation in such women and preparations for delivery should be made accordingly(1), through our study we also demonstrated that by electively performing peripartum hysterectomy for indicated cases it is possible to significantly reduce short-term morbidity (intensive care unit admission, massive blood transfusion, coagulopathy, urological injury, re-laparotomy) and achieve zero mortality.

8. Disclosure

The author reports no conflicts of interest in this work.

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Author Profile



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- B) Placenta Percreta near Miss Catastrophe. 15th APCOG – 2013 2nd Prize - Hyderabad Telangana
- C) Acute obstetrical emergency at tertiary centre. International conference on recent Advances in Obstetrics & Gynaecology 2013 Hyderabad Telangana
- D) Mistaken Adenexal malignancy in Perimenopausal woman IMS – South Zonal Conference Hyderabad 2015.
- E) End Point of SAMM Presented at AICOG. Chennai 2015 Got Special Prize

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Qualifications

Received her MBBS degree from Basaveshwara medical college hospital and research center, Chitradurga, between 2002-2007, pursued her MS in obstetrics and gynecology in one of the most prestigious institutes Bangalore Medical College and Research Institute during 2011-2013. Worked as Assistant Professor in BLDEA, Shri B M Patil, Medical College Vijaypur, Karnataka for 2 years.

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Currently working as Consultant in Obstetrics and gynecology at Lotus Hospitals for Women and Children Hyderabad.

Paper Presentations

- 1) Presented paper in KSOGA 2013, A prospective study of factors determining the outcome of tubal recanalisation. – Won second prize
- 2) Poster presentation in KSOGA 2014, Rare case report, pregnancy in uterus didelphys
- 3) Presented another paper in KSOGA 2016, Placenta accreta no more a rare occurrence.