Maternal Factors and Complications Associated with Morbidly Adherent Placenta

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ABSTRACT

Objective To determine, the frequency of maternal factors and complications associated with morbidly adherent placenta (MAP).

Study design Retrospective review of records.

Place & Duration of study Department of Obstetrics and Gynaecology, Liaquat National Hospital Karachi, from January 2014 to December 2016.

Methodology All cases of morbidly adherent placenta managed during the study period were included. Information was retrieved from the case notes and operation theatre register. The data was analyzed with descriptive statistics.

Results During the study period the total number of deliveries conducted was 5515; among these 46 women had morbidly adherent placenta. The frequency of MAP about 0.83 %. Of the total cases, 22 (47.8%) women had placenta acreta, 9 (19%) increta and 15 (32%) percreta. Mean age of the women was 30.78 ± 5.08 year and the mean parity was 2.76 ± 1.50. The mean gestational age was 33.63 ±4.69 weeks. Forty-five (97.8%) women had previous caesarean section scar, twelve (26.1%) had undergone prior curettage, but they all had history of caesarean section also. Placenta previa was associated in 32 (69.5%) cases. Two (4.3%) women had no risk factors.

Methotrexate was used in five (10.9%) women. Thirty patients underwent hysterectomy with additional bilateral internal iliac artery ligation in two women due to excessive bleeding. Caesarean section with delivery of placenta and closure of of placental sinuses done in thirteen (28.3%) women where placenta acreta was present. Massive blood loss was important observation. Three (6.5%) women died in this series.

Conclusion Early diagnosis and planned management can go a long way to reduce morbidity and mortality associated with MAP. Medical management has limited role and multidisciplinary approach helps in achieving better outcome.

Key words Placenta accreta, Placenta increta, Morbidly adherent placenta, Placenta percreta.

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INTRODUCTION:

Morbidly adherent placenta, which includes placenta accreta, increta, and percreta, is abnormal implantation of the placenta into the uterine wall with an incidence of approximately 1 per 333 –533 deliveries.[1,2] Identification of high risk patients is essential for early diagnosis and management. Transfer of women with suspected placenta accreta to major centers for delivery has been recommended.[3] MAP is associated with significant complications during pregnancy.[4-6]

Safe delivery of the fetus with measures to prevent and manage postpartum haemorrhage, if occur, remains the priority. At hysterectomy, presence of a multidisciplinary team experienced to perform arterial ligation if required, is mandatory. Interventional radiology should be available.[7] Further research with prospective evaluation of the different approaches is necessary.[8] The purpose of this study was to find out the demographic profile, high risk factors, intraoperative and postoperative maternal complications associated with morbidly adherent placenta at our centre.

METHODOLOGY:

This was a retrospective study conducted at the Department of Obstetrics & Gynacology Liaquat National Hospital Karachi. Records of patients with MAP managed from January 2014 to 2016 were reviewed. Demographic data including age, parity, gestational age and previous caesarean delivery or other uterine surgery, details of medical and obstetric history and information on the intraoperative and postoperative events, were noted. Also included were data on placental location and extent of invasion, estimated blood loss, blood transfusion, and procedures needed to control bleeding. The data were analyzed with simple descriptive statistics using number and percentages.

RESULTS:

During study period 5515 deliveries were conducted. Of these 46 (0.83 %) had morbidly adherent placenta. The mean age of women was 30.78 ± 5.08 year and the mean parity was 2.76 ± 1.50. Details are given table I. There were 22(47.8%) patients with placenta accrete, 9 (19.6%) placenta increta and 15 (32%) placenta percreta.

Twenty three (50%) women presented with antepartum haemorrhage, two (4.3%) had haematuria while seventeen (37%) women were asymptomatic. A provisional diagnose of morbidly adherent was made on simple ultrasonography. This was confirmed on Doppler ultrasonography in twenty three (50%) women and in fifteen (32.6%) with percreta on MRI.

Medical management with methotrxate was given to five (10.9%) women during year 2014. This was successful in two patients and their fertility was preserved. One of the remaining three had relook laparotomy after two hours due to excessive pervaginal bleeding and hysterectomy was done along with internal iliac ligation to control bleeding. Other patient had placenta percreta with bladder invasion. She presented with haematuria. This patient remained well for one day after caesarean section and methotrexate injection but started having haematuria on next day, so uterine artery embolization was done by interventional radiologist. After 2 days she started having haematuria again due to formation of collaterals so hysterectomy was done. In 3rd patient where methotrexate was used severe sepsis occurred. She was readmitted after one week and treated with broad spectrum antibiotics but did not survive. After 2014 this conservative method was not used. Thirty women underwent hysterectomy with additional bilateral internal iliac artery ligation in two women due to excessive bleeding (table II).

Table I: Demographic Characteristics (n=46)

Variable	n= (%)
Mean Age (Year)	30.78 ± 5.08
Mean Parity	2.76 ± 1.50
Gestational age (Weeks)	33.63±4.69
Booked women	21 (45.7%)
Un booked women	25 (54.3%)
Previous 1 Caesarean Section	11 (23.9%)
Previous 2 Caesarean Section	8 (17.4%)
Previous 3 Caesarean Section	16 (34.8%)
Previous 4 Caesarean Section	6 (13.0%)
Previous 5 Caesarean Section	4 (8.7%)
Previous CS + curettage	12 (26.1%)
Placenta previa	32 (69.5%)
No risk factors	2 (4.3%)

Table II: Management	
Caesarean Section with placenta left inside	5 (10.9%)
Caesarean Section plus sinuses closure	13 (28.3%)
Caesarean Section with obstetrical hysterectomy	28 (60.9%)
Caesarean Section with internal iliac ligation plus hysterectomy	2 (4.3%)

Mean maternal blood loss in this series was 1942.39 ml. On average 4.49 units (from 1-10) of packed cells, 6.08 units (from 4-12) of fresh frozen plasma, 7.09 units (from 4-12) platelets and 2.25 units (from 1-6) of cryoprecipitate, were transfused. Bladder was injured during dissection in thirteen women (28.3%) which was repaired. Three (6.5%) women died in this series.

DISCUSSION:

The overall frequency of morbidly adherent placenta in our study was 0.83% .The incidence of placenta acreta in the literature varies between 0.001-0.9% of deliveries. These figures is open to discussion as they are based upon definition of acreta.[9,10] Acreta is the most common form found in current study.

Previous caesarean section and placenta previa along with caesarean section in women, are the two important risk factors in our study. Literature also mention these as the most significant risk factors.[11,12] History of curettage and grand multiparity are also quoted as risk factors. It is established that MAP is directly related with frequency of caesarean section. Every effort should be made to reduce the percentage of caesarean section so that morbidity and mortality related to MAP can be reduced. If caesarean section rates continue to increase, the annual incidence of placenta previa and placenta acreta, and maternal deaths will also rise.[13]

Currently the management options for MAP include conservative and surgical approaches.[14] The conservative management include leaving the placenta inside after delivery of baby by giving higher incision. In postoperative period methotrxate, uterine artery embolization, dilatation and curettage or hysteroscopic loop resection can be performed.[15,16] Literature on the efficacy of methotrexate is still lacking, Dasari et al reported successful treatment with methotrexate.[17] When conservative management is successful, it results either in gradual resorption or delayed delivery of the placenta.[18] Routine use of conservative approach is not vogue due to limited scientific data on the subject. Serious morbidity has been reported.[19]

The morbidity in our study was related to extirpative approach. This was primarily related to extensive surgery. Massive blood transfusion was required. Urologic injury occurred in this situation. In our study average blood loss was about 1.9 litres. Urologic injuries occurred in 28.3% and that was mainly due to adherence of bladder to lower segment and in some cases due to involvement of bladder by the placental vessels. Maternal mortality in our study was 6.5% which is less than the rate quoted in literature of about 7-10%. [20] Future studies are required to investigate the role of interventional vascular techniques that has potential of preserving uterus. It would be appropriate to reduce incidence of caesarean section which is a major risk factor for MAP.

CONCLUSIONS:

Antenatal diagnosis of MAP, well-planned caesarean hysterectomy and multidisciplinary approach can reduce maternal morbidity and mortality.

REFERENCES:

1. Belfort MA. Placenta accreta. Am J Obstet Gynecol. 2010;203:430-9.
2. Wu S, Kocherginsky M, Hibbard JU. Abnormal placentation: twenty-year analysis. Am J Obstet Gynecol. 2005;192:1458-61.
3. ACOG Committee opinion no. 529: Placenta accreta. Obstet Gynecol. 2012;120:207-11.
4. ACOG Committee on Obstetric Practice Committee opinion no. 266: Placenta accreta. Obstet Gynecol. 2002;99:169-70. doi: 10.1016/S0029-7844(01)01748-3.
5. Oyelese Y, Smulian JC. Placenta previa, placenta accreta, and vasa previa. Obstet Gynecol. 2006;107:927–41.
6. Bauer ST, Bonanno C. Abnormal placentation. Semin Perinatol. 2009;33:88-96.
7. Eller AG, Porter TF, Soisson P, Silver RM. Optimal management strategies for placenta

accreta. BJOG. 2009;116:648-54.

8. Timmermans S, van Hof AC, Duvekot JJ. Conservative management of abnormally invasive placentation. Obstet Gynecol Surv. 2007;62:529–39.

9. Aggarwal R, Suneja A, Vaid NB, Yadav P, Sharma A, Mishra K. Morbidly adherent placenta: a critical review. J Obstet Gynaecol India. 2012;62:57-61.

10. Jwarah E, Wilkin DJ. Conservative management of placenta accreta. J Obstet Gynaecol. 2006;26:378-9.

11. Usta IM, Hobeika EM, Musa AA, Gabriel GE, Nassar AH. Placenta previa-accreta: risk factors and complications.Am J Obstet Gynecol.2005;193:1045-9.

12. Nisenblat V, Barak S, Griness OB, Degani S, Ohel G, Gonen R. Maternal complications associated with multiple cesarean deliveries. Obstet Gynecol. 2006;108:21-6.

13. Solheim KN, Little SE, Esakoff TF, Cheng YW, Sparks TN, Caughey AB. How will increases in cesarean rates affect the incidence of placenta previa, placenta accreta, and maternal death in future years? AJOG. 2008;199:S88.

14. Kayem G, Davy C, Goffinet F, Thomas C, Clément D, Cabrol D. Conservative versus extirpative management in cases of placenta accreta. Obstet Gynecol. 2004;104:531-6.

15. Bennett MJ, Sen RC. 'Conservative' management of placenta praevia percreta: report of two cases and discussion of current management options. Aust N Z J Obstet Gynaecol. 2003;43:249-51.

16. Mussalli GM, Shah J, Berck DJ, Elimian A, Tejani N, Manning FA. Placenta accreta and methotrexate therapy: three case reports.J Perinatol. 2000;20:331-4.

17. Dasari P, Venkatesan B, Thyagarajan C, Balu S. Expectant and medical management ofplacenta increta in a primiparous woman presenting with postpartum haemorrhage: the roleof imaging. J Radiol Case Rep. 2010;4:32-40.

18. Breathnach F, Tuite DJ, McEniff N, Byrne P, Geary MP. Uterine artery embolisation as an interval adjunctto conservative management of placenta praevia increta. J Obstet Gynaecol. 2007;27:195.

19. Butt K, Gagnon A, Delisle MF. Failure of methotrexate and internal iliac balloon catheterization to manage placenta percreta. Obstet Gynecol. 2002;99:981-2.

20. Chandraharan E, Rao S, Belli AMAS. The Triple-P procedure as a conservative surgical alternative to peripartum hysterectomy for placenta percreta. Int J Gynaecol Obstet. 2012;117:191-4.

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Zehra Naqvi. Data collection, reference, interpretation of data.

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