IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 20, Issue 6 Ser.9 (June. 2021), PP 01-05
www.iosrjournals.org

Incidence of Morbid Adhesion of Placenta in Women With Placenta Previa Attending Tertiary Care Center

Dr Ruplekha Kalita[1], Dr Ratna Kanta Talukdar[2], Dr Rajashree Sharma[3]
1 (Assistant Professor, Department of Obstetrics & Gynaecology, Guwahati Medical College,Guwahati,Assam)
2 (Professor and HOD, Department of Obstetrics & Gynaecology, Guwahati Medical College,Guwahati,Assam)
3(Registrar, Department of Obstetrics & Gynaecology, Guwahati Medical College,Guwahati,Assam)

Abstract
Introduction : *Morbidly adherent placenta is the condition when there is an abnormal invasion of the placenta into the uterine wall. Morbid adhesion of placenta is associated with severe morbidity as it often requires increased operative intervention*
Objective: *to evaluate the incidence,demographic profile, associated risk factors, feto-maternal outcome and management options so that this life threatening condition can be anticipated and dealt properly at the time of delivery.*
Materials and Methods: *a prospective observational cross-sectional study of all cases of morbid adhesion of placenta delivered at the tertiary centre of Gauhati Medical College and Hospital over the period of November 2018 to September 2019 was done. Data was retrieved from birth registration register & respective patient file.*
Result: *The total number of cases found to have morbid adhesion of placenta was 10 during the study period. Out of the total 10 cases 6 cases were diagnosed as placenta percreta, 3 cases of placenta increta and 1 case of placenta acreta. Classical caesarean section followed by total abdominal hysterectomy was done in 6 cases. Bladder was found to be involved in 4 cases of placenta percreta which needed partial cystectomy and repair.*
Conclusion *: A high index of clinical suspicion, proper antenatal care, antenatal steroid and planned surgery by experienced surgeons in a proper facility with provisions of blood transfusion, intensive care unit and multidisciplinary intervention if required is critical for management of morbidly adherent placenta. Early anticipation and timely intervention is the keystone for better maternal and neonatal outcome.*
Keywords*: Pregnancy,Female,Incidence,Tertiary Care Centers,Placenta, Morbidity*

Date of Submission: 05-06-2021 Date of Acceptance: 18-06-2021

I. Introduction

Morbidly adherent placenta is the condition when there is an abnormal invasion of the placenta into the uterine wall. The term broadly includes placenta accreta, increta and percreta . Placenta accreta is the condition when the placenta invades the superficial myometrium , placenta increta when placenta invades deep myometrium and when placenta invades serosa it is called placenta percreta. Morbid adhesion of placenta is a life threatening condition as it is associated with significant hemorrhage and responsible for nearly 7-10% of maternal mortality.[1] Prior uterine surgery, myomectomy, curettage in addition to caesarean section have all been associated with high rate of abnormal placentation but more ominously, placenta praevia is associated with a high risk of placenta accreta.[2] The incidence of placenta accreta was approximately 1 in 4027 in 1970s, 1 in 2510 in the 1980s, 1 in 533 pregnancies in1982- 2002 and 1 in 210 in 2006.[3] During pregnancy these patient may be asymptomatic or may present with bleeding per vagina or rarely as a case of acute abdomen or even as a case of retained placenta. Antenatal diagnosis of morbid adherence of placenta requires high degree of suspicion and USG prediction to reduce maternal morbidity and mortality . Adherent placenta is suspected when there is absence of retro placental clear zone and presence of bladder line interruption. The sensitivity and specificity of ultrasound including colour Doppler in diagnosing MAP is reported as 80-90% and 98% respectively[4].Some cases are diagnosed during cesarean section or intrapartum as retained placenta when manual removal fails. Morbid adhesion of placenta is associated with severe morbidity as it often requires increased operative intervention (hysterectomy, internal iliac ligation, partial cystectomy), massive BT ,increase rate of ICU admission. Very high morbidity is specially associated with undiagnosed cases resulting in massive hemorrhage while trying for its removal. Morbid adhesion of placenta is the most frequent indication for peripartum hysterectomy [5,6,7]. It addition, the incidence of perinatal complications also increases due to preterm birth and small for gestational age foetuses[8,9]. Thus proper diagnosis and effective management of morbidly adherent placenta can help us to avoid any untoward circumstances resulting in favourable feto maternal outcome.

The purpose of our study is to evaluate the incidence,demographic profile, associated risk factors, feto-maternal outcome and management options so that this life threatening condition can be anticipated and dealt properly at the time of delivery .In diagnosed cases management can be done by a planned surgery at a tertiary centre thereby improving the feto-maternal outcome.

II. Materials And Methods

We performed a prospective observational cross-sectional study of all cases of morbid adhesion of placenta delivered at the tertiary centre of Gauhati Medical College and Hospital over the period of November 2018 to September 2019.

Data was retrieved from our birth registration register & respective patient file.

Information collected included hospitalization record, age of the patient ,gravid-parity , gestational period ,history of any uterine surgery, history of smoking ,drinking ,chewing tobacco, any pre-natal record including USG , mode of delivery of current pregnancy, surgical intervention needed , detailed operation record ,post operative period and fetal outcome. In particular operation records were reviewed for data on placental localisation,stimated blood loss,blood transfusion, procedures to control bleeding such as uterine artery ligation, internal artery ligation, hysterectomy etc and presence of bladder invasion . Fetal outcome was reviewed from birth weights, APGAR score, neonatal ICU admission and perinatal mortality.

Inclusion criteria:

Singleton pregnancy irrespective of parity delivered at GMCH .

Gestational age more than 28 weeks (confirmed by a reliable date for the last menstrual period and 1st trimester ultrasound scan).

Diagnosed cases of morbid adhesion of placenta on ultrasound

Exclusion criteria

Cases of ante partum hemorrhage from other causes like abruptio placenta

Multiple pregnancies.

III. Results

The total number of cases found to have morbid adhesion of placenta was 10 during the study period. The total number of cases of placenta praevia delivered during the study period from November 2018 to September 2019 was 130. The incidence of morbid adhesion of placenta was calculated as 7.1 among the total number of cases of placenta pravia who were delivered at the tertiary centre of GMCH.

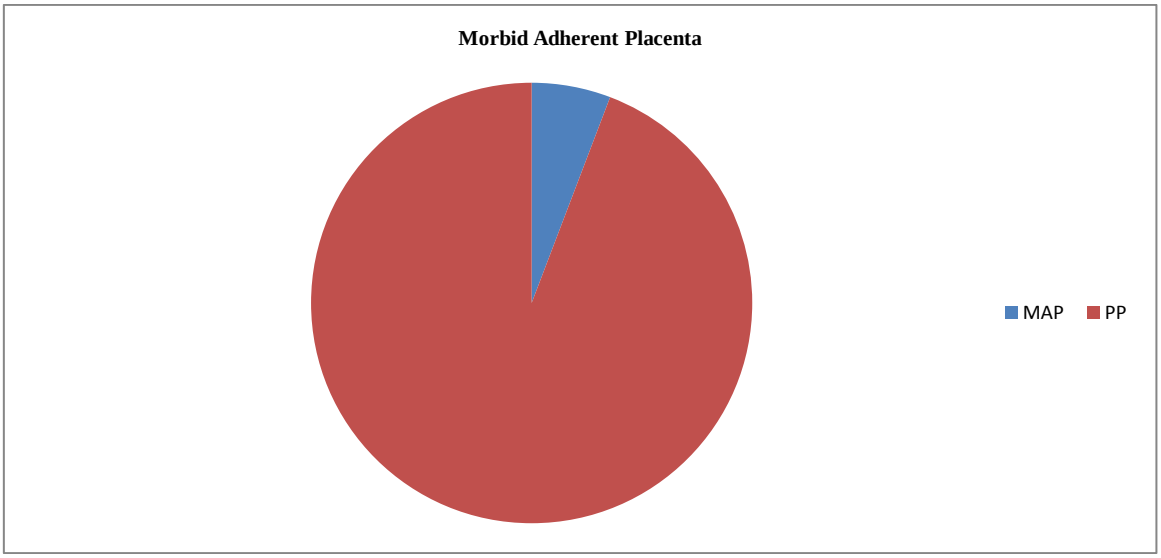

Table 1: Demographic characteristics(n=10)

Mean age (years)	33
Mean parity	
Antenatal booked cases	3 (30%)
Referred cases	6(60%)
Preterm (<38 weeks of gestation)	8 (80%)
Prior CS	8(80%)
Prior 2 CS	1 (10%)
Prior CS with H/O curettage	6(60%)
History of smoking	2 (20%)

Most of the cases of adherent placenta was in the age group of 31 to 35 years. The mean parity was . Out of the total cases only 3 cases were booked with regular antenatal check ups while the other 7 cases had only one or two antenatal checkups. Most of the cases (60%) were referred from other instituitions in emergency condition requiring urgent intervention.

The duration of most of these pregnancies (80%) were less than 38 weeks while only 2 cases delivered at term. The most consistent etiological factor was prior caesarean delivery presenting as post CS placenta praevia cases. Nearly 8 (80%)) cases were post caesarean pregnancies out of which we had 1 case of twice post CS. Most of the cases 60% were post CS who underwent curettage for abortion while 2(20%) case presented as third gravida following normal delivery who had a D&E procedure for abortion. 20% cases had a history of smoking.

Table 3: Surgical management of morbidly adherent placenta

TOTAL HYSTERECTOMY	6
SUBTOTAL HYSTERECTOMY	1
CONSERVATIVE SURGERY WITH PRESERVATION OF UTERUS	3
ASSOCIATED BLADDER REPAIR	4
ASSOCIATED INTERNAL ILIAC LIGATION	7

Out of the total 10 cases 6 cases were diagnosed as placenta percreta, 3 cases of placenta increta and 1 case of placenta acreta. Classical caesarean section followed by total abdominal hysterectomy was done in 6 cases. 5 cases had hysterectomy due to placenta percreta and 1 case was of placenta increta. Massive blood loss was a feature of all cases necessitating massive blood transfusion. An average of 4 units of whole blood (range 2-9) and 4 units of FFP (range 2-10) were transfused to the patients. Bladder was found to be involved in 4 cases of placenta percreta which needed partial cystectomy and repair. Subtotal hysterectomy was done in a case of placenta acreta along with bilateral uterine artery ligation. Conservative surgery with ligation of bilateral uterine artery ligation was done in 3 cases who were diagnosed as placenta acreta. However 1 case of conservative surgery underwent bilateral internal iliac ligation due to massive haemorrhage.

Table 4: Table on maternal and fetal outcome of morbid adherent placenta

ICU admission	YES 4(40%)	NO 6(60%)
Hospital stay	>20 DAYS 6 (60%)	<20 DAYS 4(40%)
Baby weight	<2.5 KG 7 (70%)	>2.5 KG 3(30%)
NICU admission	YES 6 (60%)	NO 3(30%)
APGAR score	>7 AT 1 MIN 4(40%)	<7 AT 1 MIN 5(50%)

4 cases out of the total 10 cases required an ICU management of 48 hours immediately after operation after which they were shifted to indoor ward. There was a single case of maternal mortality was noted due to massive haemorrhage and late arrival to hospital. The average hospital stay was 21days (range 14-60 days). Out of these 4 cases required prolonged bladder catheterisation due to bladder invovement. One case of bladder repair with prolonged catheterisation developed E. Coli cystitis. 2 cases had prolonged stay because of baby admitted in nicu.

Most of the babies 70% were low birth weight less 2.5 kg. This can be attributed to associated prematurity as most 80% were delivered before 38 weeks of gestation. Out of these cases one baby was delivered as stillborn. Nearly 60% neonates required required neonatal ICU. 5 babies were admitted due to poor APGAR score while 1 baby was admitted on Day 3 of life due to neonatal hyperbilirubinaemia. However apart from the single case of stillborn baby other babies were discharged successfully along with mother.

IV. Discussion

The overall incidence of morbid adhesion of placenta in our study was found to be 7.1%. The incidence coincides with the incidence of placenta acreta found in literature which varies between 0.001 and 0.9% of deliveries, a rate which depends on the definition adopted for placenta acreta(clinical or histopathological diagnosis) and the population studied and has increased over the last three decades parallel to the increase in caesarean delivery rate.[10] The condition holds great significance in proper diagnosis and management as it is associated with high maternal morbidity and mortality.

The presence of placenta previa in a case of previous caesarean section is a significant association in morbid adhesion of placenta. Nearly 80% of cases in our study presented as post caesarean pregnancy with placenta praevia.Out of these 60% had a history of both previous CS and curettage surgery. These risk factors are consistent with the study of Miller et al who reported a risk of 14% in women of placenta praevia with previous caesarean section, the risk increasing with the number of previous caesarean sections[11,12] . The presence of history of curettage is also mentioned in literature as an important risk factor of adherent placenta.[13,14] 20% cases had a history of smoking which is another risk factor mentioned in literature.

The earliest gestation at which placenta acreta was encountered was at 9 weeks where the patient presented as case of post CS pregnancy with history of curettage. The case came to us for termination but was councelled to continue the pregnancy and patient delivered successfully at term without much complications. This is similar to the case study of Chen YJ et al where a patient was diagnosed as placenta accrete at 9 weeks and had underwent emergency caesarean hysterectomy at 37 weeks because of placenta increta.[15]

The current management options of morbid adhesion of placenta includes both conservative and extirpative approaches.[16] The conservative approach consist of leaving the placenta in situ which may be followed by medical management with methotrexate, uterine artery embolization, internal iliac artery ligation/ embolization, dilatation and curettage or hysteroscopic loop resection.[17,18] The extirplative option include caesarean hysterectomy avoiding placental removal after delivery of fetus through classical , fundal or high transverse incision avoiding incision of placenta. The placenta attached with uterus followed by hystertomy significantly reduces blood loss and associated morbidity and mortality.[19] However hysterectomy though may serve as a life saving procedure but it is devastating for young patients as there is permanent loss of fertility. So conservative measures stand as another approach in such cases. In our study 6 cases underwent total hysterectomy and 1 case had subtotal hysterectomy. Other 3 cases were managed conservatively with preservation of the uterus. However proper antenatal diagnosis is crucial in the proper management of such cases. Colour Doppler is a gold standard in diagnosing morbidly adherent placenta. Early antenatal diagnosis and meticulous surgery can go a long way in reducing associated maternal morbidity and mortality. All cases of placenta praevia in previous CS cases should be delivered at tertiary center with blood transfusion facilities for better management.

Maternal mortality in our study was found to be 10%. The case was unbooked and referred in an emaciated condition requiring urgent intervention. There was no previous scans present and diagnosis of adherent placenta was done during operation. This is consistent with the reported mortality of morbidly adherent placenta which ranges from 7 to 10 % worldwide.[20] The morbidity in our study was primarily related to extensive surgery requiring massive blood transfusion and prolonged hospital stay. Again urological intervention was required in 40% cases which increased chances of infection.

There was significant neonatal morbidity in our study. 70% of babies were born with low birthweight and 60% required neonatal ICU admission due topoor APGAR score. The associated prematurity is a significant risk factor for poor APGAR score. There was a case of stillborn delivery which accounted for 10% of neonatal mortality. However booked cases who underwent propr antenat check up and received antenatal steroids had better fetal and maternal out come. This is consistent with literature where it is mentioned that placenta acreta is an independant risk factor for late preterm and perinatal mortality.[21]

V. Conclusion

Morbid adhesions of placenta is an important condition associated with high maternal and neonatal morbidity and mortality. A proper antennal diagnosis is significant in favourable management of such cases. A high index of clinical suspicion, proper antenatal care, antenatal steroid and planned surgery by experienced surgeons in a proper facility with provisions of blood transfusion, intensive care unit and multidisciplinary intervention if required is critical for management of such cases. Early anticipation and timely intervention is the keystone for better maternal and neonatal outcome. The decision of hysterectomy or conservative surgery needs individualisation considering properly the pros and cons of both approaches.

References

[1]. Pinas-Carrillo A, Chandraharan E. Management of morbidly adherent placenta. Obstet Gynaecol Reproduc Med. 2016;26(10):283-90

[2]. Wu S, Kocherginsky M, Hibbard JU. Abnormal placentation: twenty year analysis. Am J Obstet Gynecoll. 2005:192:1458-61.

[3]. Caesarean section in cases of placenta praevia and accreta.Palacios-Jaraquemada JM,Best Pract Res Clin Obstet Gynaecol. 2013 Apr; 27(2):221-32

[4]. Caesarean section in cases of placenta praevia and accreta.Palacios-Jaraquemada JM,Best Pract Res Clin Obstet Gynaecol. 2013 Apr; 27(2):221-32.

[5]. Jagielska I, Kazdepka-Ziemińska A, Tyloch M, et al. Clinical study of perinatal hysterectomy between 2000-2011 in the clinic of obstetrics, gynecological diseases and oncological gynecology in Bydgoszcz. Ginekol Pol. 2014;85(3):192–196. doi: 10.17772/gp/1712. [PubMed] [CrossRef]

[6]. Dandolu V, Graul AB, Lyons AMD. Obstetrical Hysterectomy, cesarean delivery and abnormal placentation. J Matern Fetal Med. 2012;25(1):74–77. doi: 10.3109/14767058.2011.565391. [PubMed] [CrossRef]

[7]. Roethlisberger M, Womastek I, Posch M, et al. Early postpartum hysterectomy: incidence and risk factors. Acta Obs Gynecol Scand. 2010;89(8):1040–1044. doi: 10.3109/00016349.2010.499445. [PubMed] [CrossRef]

[8]. Eller AG, Porter TF, Soisson P, et al. Optimal management strategies for placenta accreta. BJOG. 2009;116(5):648–654. doi: 10.1111/j.1471-0528.2008.02037.x.[PubMed] [CrossRef]

[9]. Sumigama S, Itakura A, Ota T, et al. Placenta previa increta/percreta in Japan: a retrospective study of ultrasound findings, management and clinical course. J Obstet Gynaecol Res. 2007;33(5):606–611. doi: 10.1111/j.1447-0756.2007.00619.x. [PubMedCrossRef]

[10]. Gielchinsky Y, Rojansky N, Fasouliotis Sj, et al. Plaenta acreta: summary of 10 years: a survey of 310 cases. Placenta 2002: 23:210-4

[11]. Usta IM, Hobeika EM, Musa AA,et al.Placenta praevia-acreta:risk factors and complications. Am J Obstet Gynecol.2005:193:1045-9

[12]. Nisenblat V, Barak S, Griness OB, et al. Maternal complications associated with multiple caesarean deliveries. Obstet Gynecol. 2006: 177:210-4

[13]. Miller DA, Chollet JA, Goodwin TM. Clinical risk factors for placenta previa-placenta acreta. Am J Obstet Gynecol. 1997:177:210-4

[14]. Kastner ES, Figuera R, Garry D,et al. Emergency peripartum hysterectomy: experience at a community teaching hospital. Obstset Gynecol. 2002:99:971-5

[15]. Chen YJ, Wang PH, Liu WM et al. Placenta accrete diagnosed at 9 weeks gestation: Ultrasound Obstet Gynecol. 2002:19:620-2.

[16]. Kayem G, Davy C, Goffinet F, et al. Conservative versus extirpative management in cases of placenta acreta. Obstet Gynecol.2004:104:531-6

[17]. Bennett MJ, Sen RC. Consevative management of placenta previa percreta: report of two cases and discussion of current management options. Aust N Z J Obstet Gynaecol. 2003:43:249-51

[18]. Mussalli GM, Shah J, Berek DJ, et al : Placenta accrete and methotrexate therapy: three case reports. J Perinatol. 2000:20:331-4

[19]. Silver . Maternal morbidity associated with multiple caesarean deliveries. Obstet Gynecol. 2006

[20]. Chandraharan E, Rao S, Belli AMAS. The triple- P procedure as a conservative surgical alternative to peripartum hysterectomy for placenta percreta. Int J Gynaeol Obs. 2012:117(2):191-194.doi:10.1016/j.ijgo.2011.12.005[Pub Med][Cross Ref][Google Scholar]

[21]. Adi Vinograd et al: Placnta accrete is an independent risk factor for late preterm and perinatal mortality: J Matern Fetal Neonatal Med.2015 Aug[Pub Med]

Dr Ruplekha Kalita, et. al. "Incidence of Morbid Adhesion of Placenta in Women With Placenta Previa Attending Tertiary Care Center."*IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, 20(06), 2021, pp. 01-05.