Bangladesh J Obstet Gynaecol, 2018; Vol. 33(2): 96-100

Original Articles

Catastrophic Maternal Complications of Morbidly Adherent Placenta in Patients with History of Previous Caesarean Delivery

MUMTAHENA AMIR[1], SALMA ROUF[2], SALEHA BEGUM CHOWDHURY[3]

Abstract:

Objective: *The study is aimed to describe the grave maternal outcomes encountered in patients having morbidly adherent placenta along with history of previous caesarean section.*

Materials and Methods: *This was a cross-sectional study from September 2014 to August 2015. All the patients attended in the in-patient department of obstetrics & gynaecology in DMCH during the study period having morbid adhesion of placenta (diagnosed antenatally by USG or diagnosed preoperatively) along with history of previous caesarean section.*

Result: *Total 10,805 obstetric patients delivered during the study period, of which 6,337 patients had caesarean sections. Out of them 37 pregnant patients were found to have morbid adhesion of placenta along with history of previous C/S. The incidence is 1 in 292 deliveries. All of the 37 patients needed hysterectomy for intractable per operative haemorrhage. All the patients needed transfusion of more than 04 units of blood. Nineteen patients needed ICU supports Ten (27%) patients died. Other grave complications were hypovolemic shock (19 patients), bladder injury (16patients), renal failure (07 patients), multiorgan failure (07 patients) and DIC (06 patients).*

Conclusion: *All the patients of morbidity adherant placenta with previous Caesarean Section needed caesarian hysterectomy and ten patients died.*

Keywords: *Morbid adhesion of placenta/Placenta accreta, previous caesarean section, maternal outcomes. Placenta accrete spectrum.*

Introduction:

The catastrophic maternal morbidities, high maternal mortality and associated poor perinatal outcomes encountered in placenta accreta in previously scarred uterus have generated a lot of concerns among the practicing clinicians. This is also an increasing concern in the context of a rising caesarean section rate around the world and also in Bangladesh.

Morbidly adherent placenta is a general term that includes placenta accreta, increta and percreta. When chorionic villi attach to the myometrium, rather than being restricted within the decidua basalis is described as placenta accreta. When the chorionic villi invade the myometrium, it is placenta increta; whereas placenta percreta describes invasion through the myometrium & serosa, and occasionally into adjacent organs, such as the bladder. The clinical features and diagnosis of the three types of morbidly adherent placenta have many similarities. Hence, placenta accreta is the general term used to describe these clinical conditions when part of the placenta, or the entire placenta invades and is inseparable from the uterine wall [1]. The reported incidence of placenta accreta has increased from approximately 0.8 per 1000 deliveries in the 1980s to 3 per 1000 deliveries in the past decade[2]. Many studies have revealed that

1. Dr. Mumtahena Amir, Dept. of Obstetrics & Gynaecology, BSMMU.
2. Prof. Salma Rouf, Professor, Dept. of Obstetrics & Gynaecology, Dhaka Medical College Hospital
3. Prof. Saleha Begum Chowdhury, Professor, Dept. of Obs & Gyane, BSMMU

Address for Correspondence: Dr. Mumtahena Amir, House#35(A1), Road#11(new), Dhanmondi 1209. Cell no-01777979126, Email-mumu9700@gmail.com

there is high association between placenta accreta and previous caesarean section[3]. Damage to the endometrium or myometrium may be the initial event causing the abnormal placental adherence in cases of prior caesarean section.

Antepartum & Intrapartum maternal haemorrhage and the need for emergency section or peripartum hysterectomy related to abnormal placentation are the main causes of maternal and fetal morbidity and mortality[4]. Associated high maternal mortality and morbidity with this conditionneed to be addressed for anticipation of the catastrophes involved and preparedness for these cases.

Materials and Methods:

This cross-sectional study was conducted in the in-patient department of obstetrics & gynaecology in Dhaka Medical College Hospital from September 2014 to August 2015. The sampling method was purposive consecutive sampling and the inclusion criteria for patients were-diagnosed cases of placenta accreta (by USG) as evidenced by multiple vascular lacunae within the placenta, loss of the normal hypoechoic retro placental zone, abnormalities of the uterine serosa–bladder interface and turbulent blood flow through the lacunae on color Doppler imagingor peroperative diagnosis of placenta accreta in patients with history of previous caesarean section. Patients were followed up till discharge and data was collected in a predesigned data collection sheet.

The preparations for the pre diagnosed cases included; planned elective hysterectomy, arrangement for at least 6 units of blood prior operation, involvement of senior anesthesiologists, urologists and pediatricians, readiness for opening up of central venous access, anesthesia by G/A and conduction of the surgery by professor/associate professor of respective unit with expert assistants.

Results:

10,805 obstetric patients were delivered during 12 months period from 01.09.2014 to 31.08.2015 in the obstetrics and gynaecology department of DMCH. Among them 6,337 patients had caesarean sections. Total 37 pregnant patients were found to have morbid adhesion of placenta in scarred uterus during this period. The incidence is 1 in 292 deliveries and 1 in 171 caesarean sections.

The patients' profiles and outcomes are presented in the tables.

Table-I

Patients' profile

Parameter	No of patients with morbidly adherent placenta (N=37) No. (%)
Age group (years)	
19-24	06 (16.2%)
25-30	23 (62.2%)
31-38	08 (21.6%)
Previous caesarean delivery (number)	
01	26 (70%)
02	11 (30%),
Place of previous C/S & Level of care provider	
Tertiary centers & senior surgeons	03(08%)
Peripheral centers & junior surgeon	34 (92%)
Indication of primary C/S	
Non recurrent	24 (64.8%)
Recurrent	09 (24.3%)
Elective	04 (10.8%)
Diagnosis of placenta accreta	
Antenatally by USG	13 (35%)
Incidental, peroperatively	24 (65%)
Type of current surgical interventions	
Elective C/S followed by peripartum hysterectomy	10 (27%)
Emergency C/S followed by peripartum hysterectomy	27 (73%)
Gestational age during delivery (in weeks)	
34	07 (18.9%)
>34 - <37	19 (51.4%)
37 or more	11 (29.7%)

Table-II

Maternal outcomes

Outcomes	No of patients(N=37) No. (%)
Massive obstetric haemorrhage	37(100%)
Need for Hysterectomy	37 (100%)
Need for Massive Blood Transfusion (>4 unit)	37 (100%)
Need for ICU support	19 (51.3%)
Hypovolemic Shock	19 (51.3%)
Renal failure	07 (18.9%)
Multiorgan failure/ARDS	07 (18.9%)
DIC	06 (16.21%)
Bladder injury	16 (43%)
Wound infection	06 (16.2%)
Prolonged catheterization	37 (100%)
Hospital stay of survived patients, N=27	
• 01 week	06 (22.2%)
• up to 02 weeks	13 (48%)
• 03 weeks or more	08 (29.62%)

Table-III

Patients' profiles of the 10 maternal deaths

Parameters	No of DeathN=10
Type of C/SEmergency C/S followed by peripartum hysterectomy	10 (100%)
Elective C/S followed by peripartum hysterectomy	00 (0%)
Number of previous caesarean sections	
Previous 2 C/S	07 (70%)
Previous 1 C/S	03 (30%)
Gestational weeks	
<34 weeks	04 (40%)
34-36 weeks	03 (30%)
>36 weeks	03 (30%)
Cause of Death	
Hypovolemic shock	05 (50%)
Multiorgan failure	02 (20%)
ARDS	01
DIC	01
Heart failure & Pulmonary edema	01
Admission to death interval (in hours)	
0-12	05
12-24	02
After 24 hours	03
Operation to death interval (in hours)	
0-2	04
2-24 hours	03
After 24 hours	03

Discussion:

Total 37 (1 in 292 deliveries) pregnant patients were found to have morbid adhesion of placenta along with history of prior C/S in one year time period. Where the reported incidence of placenta accreta was 1 in 533 pregnancies for the period of 1982–2002 [5]. The increased incidence found in this study confirms the continued increase of this entity and also accounts for the reason of rising rate of caesarean deliveries in our country.

Almost all the cases (34) had previous C/S in peripheral centers conducted by junior surgeons. Only 3 cases had previous surgery in a tertiary centers. This is a striking feature suggesting the possibility of association of placenta accreta with the techniques or skills of surgeons conducting the caesarean sections.

Twenty four out of these 37 patients were not diagnosed as having placenta accreta during antenatal period and were diagnosed as placenta praevia pre operatively while they presented with APH for admission. They were dealt in emergency as critical ones. All ten maternal deaths occurred in this group. Maximum (4) deaths occurred due to irreversible hypovolemic shock as a result of severe ante partum or massive per operative haemorrhage. Other causes were multiorgan failure, ARDS, DIC and heart failure.

Among the ones diagnosed as having placenta accreta (13 patients) pre operatively, ten patients had elective caesarean section followed by hysterectomy done at day time. Other three cases, though were planned for elective surgery had emergency caesarean hysterectomy at evening/night hour as the patients had episodes of life threatening APH. The operations were done by senior obstetricians with availing all the supports in these antenatally diagnosed group of patients.Although there were serious morbidities but mortality was not encountered in these cases.

19 patients needed ICU supports. Hypovolemic shock, renal failure, multiorgan failure, ARDS, bladder injuries, wound infections were the common complications encountered. The maternal mortality in this study was 27 %(10 patients), which was very high compared to other studies where maternal mortality with placenta accreta has been reported to be as much as 07% [6]. The catastrophes encountered in the antenatally undiagnosed cases dealt in emergency as critical ones without appropriate and immediate availability of blood for transfusion and lack of adequate per operative supports might be accounts for this high maternal mortality.

Of the 10 maternal deaths 7 (70%) patients had previous history of two caesarean sections, which is also very significant. Of the 3 remaining patients having prior onecaesarean section, 2 patients were presented with ruptured uterus on admission, one at 39 weeks (twin pregnancy) and another at 41 weeks of gestation and 1 presented at 36 weeks with severe APH whoreceived 11 units of blood transfusion peri operatively and dieddue to heart failure and pulmonary oedema.

All the patients in this study had total hysterectomy as a life saving measure and were most effective in the cases which were done electively with all the preparations. In another study from a cohort of 39,244 women who underwent caesarean delivery, 186 that had a caesarean hysterectomy with the most common indication as placenta accreta (38%)[7]. Also in another study [8]38 out of 40 patients with placenta accreta needed hysterectomy.

Perinatal outcome was also poor. Only 11 babies could reach up to term in these cases. Sixteen were delivered before 36 weeks due to life threatening APH of the mother.

The limitations of this study were, as most of the complicated patients and also who are in a critical state are referred to Dhaka Medical College Hospital, so incidence as well as maternal and perinatal outcomes among the patients of this tertiary hospital might not be an accurate reflection of the overall situation.

Conclusion:

Morbid adhesion of placenta in a scarred uterus is associated with severe maternal complications and grave outcomes. Antenatal diagnosis is associated with better maternal outcome, possibly because ofthe adopted strategies for prevention and control of haemorrhage and appropriate planning of anesthetic and surgical resources in the event.

Recognition of high mortality and morbidities that are associated with morbidly adherent placenta is very crucial for anticipation of the catastrophes involved and preparedness for those. Therefore, the data generated from the present study might be helpful for documentation of its rapidly rising incidence in

our country and will help us to be prepared better for its management and to become rational and alert about conduction and complications ofcaesarean sections.

References:

1. Hughes EC, editor. Obstetric-gynaecologic terminology: with section on neonatology and glossary on congenital anomalies. Philadelphia (PA): F.A. Davis; 1972.
2. Flood, K.M., Said, S., Geary, M., Robson, M., Fitzpatrick, C., and Malone, F.D. Changing trends in peripartum hysterectomy over the last 4 decades. Am J Obstet Gynecol. 2009; 200: 632.e1–632.e6
3. Clark SL, Koonings PP and Phelan. Placenta praevia/accreta and prior caesarean section.1985; 66:89-92.
4. Crane et al. Neonatal outcomes of placenta praevia, 1999; 93:541-54.
5. Wu S et al: Abnormal placentation: 20 year analysis. AJOG 2005.
6. O'Brien JM, Barton JR, and Donaldson ES. The management of placenta percreta: conservative and operative strategies. Am J Obstet Gynecol 1996; 175:1632-8.
7. Shellhaas CS, Gilbert S, Landon MB, et al. The frequency and complication rates of hysterectomy accompanying cesarean delivery. Obstet Gynecol 2009; 114:224–9.
8. Breen JL, Neubecker R, Gregori CA, Franklin JE Jr. Placenta accreta, increta, and percreta. A survey of 40 cases. Obstet Gynecol. 1977 Jan; 49(1):43-7.