MATERNAL AND FOETAL OUTCOME IN ADHERENT PLACENTA AND ITS ASSOCIATION WITH PREVIOUS LOWER SEGMENT CAESAREAN SECTION AND HISTORY OF ABORTIONS

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ABSTRACT

BACKGROUND
Placenta adherence is a significant cause of maternal morbidity and mortality. Normally, the placenta adheres to decidua basalis layer, allowing for a smooth separation of the placenta from the uterus after delivery. In patients with abnormal placentation, placenta is firmly bound to the defective decidua basalis layer or even to the myometrium giving rise to varying degrees of adherent placenta.
Aim- To study the demographic profile, maternal and foetal outcome of adherent placenta with history of previous lower segment caesarean section and previous history of abortions.

MATERIALS AND METHODS
A descriptive study of 23 pregnant women with adherent placenta was conducted at Modern Government Maternity Hospital, Petlaburj, Hyderabad for a duration of 2 years, i.e. from November 2014 to November 2016.
Study Design and Sample Size- This is a retrospective study and sample size is 23.

RESULTS
In our study, 95.7% of cases were associated with placenta previa and 91.3% were associated with previous caesarean section. Thus, placenta previa compounds the risk of adherent placenta in patients with history of caesarean section. Previous history of abortions where D & C was done is also a risk factor for adherent placenta. In our study, 7 cases (30.4) have undergone D & C previously. Out of them, 6 (26.1) had both previous LSCS and D & C and one patient (4.3) had history of D & C only. She had focal adherent placenta and conservative management was done.

CONCLUSION
All cases of adherent placenta, especially placenta percreta should be managed by multidisciplinary team involving a gynaecologist and urologist.[1] Preoperative cystoscopy and placement of ureteric stents may aid in identifying the ureters.[2] Haemorrhage can be reduced by preoperative uterine artery balloon tamponade.

KEY WORDS
Adherent Placenta, Previous Caesarean Section, Dilatation and Curettage.

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BACKGROUND

Abnormal placentation (Accreta, Increta and Percreta) became the leading indication for peripartum hysterectomy.[3] These placental abnormalities should be detected before delivery for effective management. Once a rare occurrence, morbidly adherent placenta is now becoming an increasingly common complication of pregnancy, mainly due to the increasing rate of caesarean delivery over the past years and also intrauterine procedures like dilatation and curettage, previous surgeries etc.

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It is the most frequent indication for peripartum hysterectomy. In addition, the incidence of perinatal complications is also increased due to preterm birth and small for gestational age foetuses. Placenta adherence is a significant cause of maternal morbidity and mortality. Normally, the placenta adhere to decidua basalis layer allowing for a smooth separation of the placenta from the uterus after delivery. In patients with abnormal placentation, placenta is firmly bound to the defective decidua basalis layer or even the myometrium, giving rise to varying degrees of adherent placenta.

Varying Degrees of Placenta Accreta

1. Placenta Accreta Vera- placenta adheres to myometrium.
2. Placenta Increta- placenta invades the myometrium.
3. Placenta Percreta- placenta invades through the myometrium upto the uterine serosa and may include invasion into other pelvic organs like bladder, round ligament, vagina and so on.

Risk Factors

Major Risk Factors for Morbidly Adherent Placenta[4]–

1. History of previous caesarean section.

2. Anteriorly situated placenta in above situation.
3. History of dilatation and curettage.
4. Any uterine surgeries.
5. Advanced age.
6. Multiparity, etc.

History of Dilatation and Curettage
1. Any uterine surgeries.
2. Advanced age.
3. Multiparity, etc.

Aims and Objectives
To Study the Demographic Profile
Maternal and foetal outcome of adherent placenta with history of previous lower segment caesarean section and previous history of abortions.

MATERIALS AND METHODS
A descriptive study of 23 pregnant women with adherent placenta for the study was taken for convenience which was conducted at Modern Government Maternity Hospital, Petlaburj, Hyderabad for 2 years. The study included all pregnant women irrespective of parity status with gestational age more than 26 weeks who had any type of morbidly adherent placenta diagnosed on USG colour Doppler/ Magnetic Resonance Imaging (MRI) or had been diagnosed intra-operatively with morbidly adherent placenta. All patients included had delivered in our setup. The parameters studied were the mode of presentation of the patient and gestation age, history of previous lower segment/classical caesarean section or/ and other intrauterine operative procedure, dilatation and curettage, clinical presentation, maternal complications, treatment given and perinatal maternal and foetal outcome are studied and following are the results of the study.

RESULTS

Parameter		No. of Women	%
Booking Status	Booked	5	21.7
	Unbooked	18	78.3
Age	16-19	0	0
	20-30	10	43.4
	30-40	13	56.6
Parity	Primigravida	0	0
	Multigravida	23	100

Table 1. Demographic Profile of Women

Parameter	No. of Women	%
Previous LSCS	21/23	91.3
Previous LSCS with LCB < 2 yrs.	14/21	60.8
Previous LSCS with LCB 2 - 4 yrs.	5/21	21.7
Previous LSCS with LCB > 4 yrs.	3/21	7.3
Previous history of abortions		
D & C done	7	30.4
D & C not done	0	0
Previous LSCS + D and C	6	26.1
Previous normal vaginal delivery	1	4.3

Table 2. Previous Obstetric Performance

Position of Placenta	No. of Women	%
Upper segment	1	4.34
Lower segment		
Type 1	0	
Type 2	1	4.34
Type 3	2	8.69
Type 4	19	82.5

Table 3. Position of Placenta

Abnormal Placentation	No. of Women	%
Focal adherent placenta	9	39.1
Accreta	7	30.4
Increta	2	8.6
Percreta	5	21.7

Table 4. Abnormal Placenta

Parameter	No. of Women	Percentage
Gestational age at time of presentation		
< 34 weeks	4	17.4
34-37 weeks	4	17.4
> 37 weeks	15	65.2
APH		
Bleeding	9	39.1
No bleeding	14	60.9
Presentation of foetus		
Cephalic	16	69.5
Breech	6	26.08
Oblique	0c	0
Transverse	1	4.34

Table 5. Obstetric Evaluation

Morbidity Associated	No. of Women	Percentage
Caesarean hysterectomy	18	78.26
Blood transfusion	23	100
Bladder injury	5	21.7
Uterine artery ligation	7	30
Maternal mortality	4	17.3

Table 6. Maternal Complications

Parameter	No. of Women	Percentage
Term	15	65.3
Pre-term	8	34.7
Low birth weight < 2.5 kg		
Term	0	0
Preterm	8	34.7
Perinatal mortality	0	0
Term	0	0
Preterm	5	22

Table 7. Perinatal Outcome

Comparison of Our Study with Other Studies

	Maplessons Learnt (2012)	Morbidly Adherent Placenta	Our Study
		A 7-Year Experience (2016)	
Booked Cases	50%	47.06%	21.7%
Gestational Age	34.9 weeks	36.51 weeks	37 weeks
At Time of Delivery			
APH	30%	17.51%	39.5%
Previous caesarean	100%	76.51%	91.3%
Delivery Previous Caesarean			
+ D and C	20%	23.53%	26.1%
Placenta previa	100%	88.24%	95.7%

Placenta in Upper	0	21.6%	4.34%
Segment			
Caesarean Hysterectomy	100%	52.9%	78.26%
Maternal Mortality	30%	0%	17.3%
Perinatal Mortality	-	-	22%

DISCUSSION

Adherent placenta is one of the most common reason for emergency caesarean hysterectomy and mortality rate is around 7%. Previous history of Caesarean section is a major risk factor for adherent placenta. Incidence of morbidly adherent placenta is increasing secondarily to the rise of Caesarean section. In our study, 91.3% of cases of adherent placenta were associated with history of previous caesarean sections.[5,6,7] Out of these, 60.8% of cases were associated with last child birth < 2 years. 21.7% and 7.3% of cases with last child birth 2 - 4 years and > 4 years respectively.

In patients of previous LSCS, posterior or not even previa should be kept in mind whether placenta is anterior or possibility of adherent placenta. In a study conducted by silver et al, the risk of adherent placenta increases from 3.3% in patients with history of one caesarean section and placenta previa to 11% in patients with history of two caesarean sections and placenta previa to 40% with history of three caesarean sections and placenta previa.

In our study, 95.7% of cases were associated with placenta previa and 91.3% were associated with previous caesarean section. Thus, placenta previa compounds the risk of adherent placenta in patients with history of caesarean section. Increasing maternal age is also a risk factor for adherent placenta. The mean age of women in our study was around 29.9 years. Previous history of abortions where D & C was done is also a risk factor for adherent placenta. In our study, 7 cases (30.4) have undergone D & C previously. Out of them, 6 (26.1) had both previous LSCS and D & C and one patient (4.3) had history of D & C only. She had focal adherent placenta and conservative management was done. Increasing maternal age is also a risk factor for adherent placenta. The mean age of women in our study was around 29.9 years. Previous history of abortions where D & C was done is also a risk factor for adherent placenta.[8] In our study 7 cases (30.4) have undergone D & C previously, out of them 6 (26.1) had both previous LSCS and D & C and one patient (4.3) had history of D & C only. She had focal adherent placenta and conservative management was done.

The average gestational age of delivery was around 37 weeks in our institution. Corticosteroids were given in 8 (34.7) patients for foetal lung maturity. The RCOG recommends planned delivery around 36 - 37 weeks of gestation[9] with corticosteroid cover is a reasonable compromise. Individual characteristics should be considered, but with a planning needed for the especially high risk cases suspected. The average blood in our study was around 2 - 2.5 litres requiring on an average of more than 5 units of packed cells and 4 units of FFPS. Generally, the recommended management of adherent placenta is planned caesarean hysterectomy with placenta left in situ, because removal of placenta is associated with significant haemorrhagic morbidity. However, surgical management of placenta may be individualised. Caesarean hysterectomy was done in 18 (78.2%) of cases in our study, out of which 14 (77.8) cases were associated with varying degrees of placenta accreta and 4 cases were associated with focal adherent placenta. The presence of a small focal placenta accreta would allow for more conservative management.[10] The treatment generally involves applying placental bed sutures. Pre-operative prophylactic uterine artery catheterisation reduce blood loss. Haemostatic measures were uterine artery ligation and balloon tamponade. Postoperative complications of placenta accreta include DIC, fistula formation, ureteric stricture, urinary stasis, infection, pelvic and renal abscess formation, renal compromise, transfusion reaction, sepsis, ARDS and multi-organ failure.[11]

In our study there were 5 cases of placenta percreta which accounts for 21% and in all the cases bladder injury occurred. In above cases there were 4 maternal deaths due to intra-operative cardiac arrest accounting for 17%. There were 5 neonatal deaths, which accounts for 22% and all of them were unbooked and pre-term with antepartum haemorrhage and were delivered by emergency LSCS. Hysterectomy should be done by posterior approach dividing uterosacral ligaments and entering vagina posteriorly. Involved portion of bladder is then resected with hysterectomy specimen.

CONCLUSION

All cases of adherent placenta, especially placenta percreta should be managed by multidisciplinary team involving a gynaecologist and urologist.[1] Preoperative cystoscopy and placement of ureteric stents may aid in identifying the ureters.[2] Haemorrhage can be reduced by preoperative uterine artery balloon tamponade. Multidisciplinary team and blood bank preparation may help in reducing maternal morbidity and mortality. Counselling and monitoring of patients at high risk for adherent placenta should start early in the antenatal period.[12] One should resort to hysterectomy sooner rather than later.

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