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Original Research Article

An analytical study of intraoperative, immediate post-operative and perinatal complications in previous two caesarean section

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ABSTRACT

Background: Lower segment caesarean section is one of the commonest operations performed now a day. It has been seen that in cases with previous caesarean section there is increased maternal morbidity and mortality due to placenta previa, adherent placenta and caesarean hysterectomy. The present study was conducted to know the fetomaternal outcome and intra and immediate post-operative complications in cases with previous two lower segment caesarean section.

Methods: The present study was conducted in TMMC Moradabad between January 2017-January 2018. Total 68 cases were previous two lower segment caesarean section were included in the study. Neonatal outcome and intraoperative and immediate postoperative complications were seen in these cases.

Results: In the present study majority of the cases were in 30-34 years age group (39.7%), the maximum number of caesarean sections were done between gestational age of 37-39.6 weeks (47.1%). Intraoperatively adhesions between uterus, anterior abdominal wall and bladder was seen in less than half of the cases i.e. in 42.6% cases. Out of 68 cases with previous two lower segment caesarean operated 13 cases had placenta previa and 4 cases had adherent placenta.

Conclusions: The present study shows that the maternal and perinatal morbidity and mortality is increased with increasing number of caesarean sections. So, there should be reduction in rate of primary caesarean section which can reduce the rate of placenta previa and adherent placenta in subsequent pregnancies.

Keywords: Caesarean hysterectomy, Lower segment Caesarean section (LSCS), Placenta previa

INTRODUCTION

Caesarean section is defined as birth of fetus through incision on anterior abdominal wall and uterine wall after the period of viability. Pregnancy with previous caesarean has become common now a days because of increase in the rate of primary caesarean section. There has been increase in the rate of caesarean section in India from 3% (1992) to 11% (2006).^{1,2} The increase in the rate of caesarean sections are due to advent of newer and safer aesthetic techniques and availability of blood, better antibiotics, more meticulous fetal monitoring and better neonatal care facilities. One of the commonest indications

of caesarean section is previous caesarean section. According to one of the largest studies, serious maternal morbidity increases with increasing number of caesarean deliveries specifically from triad of placenta previa, placenta accreta and caesarean hysterectomy.^{3,4,5}

The risk of complications increases with increase in the number of caesarean section due to formation of adhesions and scarring. Scar rupture in cases with previous caesarean section is another catastrophic complication. It has also been reported that complication rate is higher in emergency caesarean sections than in elective ones.^{5,6} The primary objective of the present

study was to observe the fetomaternal outcome in cases with previous two lower segment caesarean section and to study the intra and immediate post-operative complications in cases with previous two lower segment caesarean section.

METHODS

The present study was conducted in Teerthankar Mahaveer Medical College between January 2017-January 2018. Total 68 cases were previous two lower segment caesarean section fulfilling the inclusion criteria were included in the study.

Inclusion criteria

- All antenatal cases with previous two lower segment caesarean section getting admitted to the hospital were included in the study.

Exclusion criteria

- Patients with history of previous abdominal surgeries other than caesarean section.
- Patients with other comorbidities which can affect the fetomaternal outcome like gestational diabetes mellitus.
- Cases presenting with rupture uterus.

Detailed history regarding age, parity, detailed obstetric history, course of present pregnancy, indication of previous caesarean, antenatal, intra and post-operative complications in previous pregnancy. History of any other surgical procedure like D and C was noted.

General physical and obstetric examination was conducted. Patients were subjected to routine blood and urine investigations and ultrasonography (especially for placental localization). Patients were subjected to termination of pregnancy as per protocols. The data was entered in Microsoft Excel sheet and descriptive analysis of the data was done.

RESULTS

In the present study majority of the cases were in 30-34 years age group (39.7%), followed by 35-39 years (26.5%) then in 40-44 years (19.1%) and then in 25-29 years (14.7%) as depicted in Figure 1.

In majority of cases the caesarean sections were done during emergency than on elective basis (Figure 2). As depicted in table 1 the maximum number of caesarean sections were done between gestational age of 37-39.6 weeks (47.1%), followed by between 32-36.6 weeks (33.8%) which was followed by more than 40 weeks in 10.3% cases. Six cases presented with antepartum haemorrhage were operated at less than 28 weeks and between 28-31.6 weeks. Intraoperatively adhesions between uterus, anterior abdominal wall and bladder was

seen in less than half of the cases i.e in 42.6% cases while in 57.4% cases there were no adhesions (Table 2).

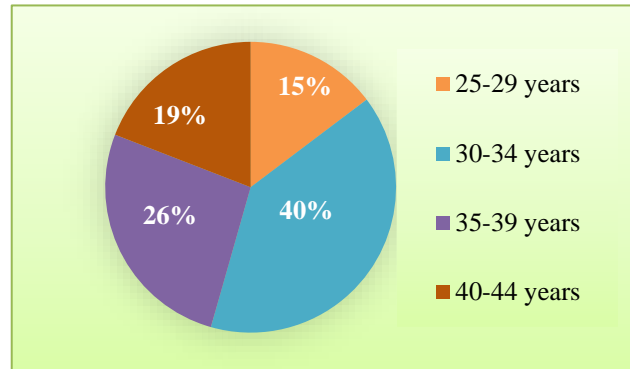


Figure 1: Distribution of cases according to age.

Out of 68 cases with previous two lower segment caesarean operated 13 cases had placenta previa and 4 cases had adherent placenta. In majority of the cases with placenta previa bleeding responded to hemostatic sutures on the placental bed while 4 cases required intrauterine packing. Out of four cases with morbidly adherent placenta 3 cases required emergency caesarean hysterectomy.

Table 1: Distribution of cases according to gestational age at time of delivery.

Gestational age	Number	Percentage
< 28 weeks	2	2.9%
28-31.6 weeks	4	5.9%
32-36.6 weeks	23	33.8%
37-39.6 weeks	32	47.1%
>40 weeks	7	10.3%

There was one mortality in case with morbidly adherent placenta who came in emergency with undiagnosed adherent placenta due to massive post-partum haemorrhage leading to DIC (Table 3).

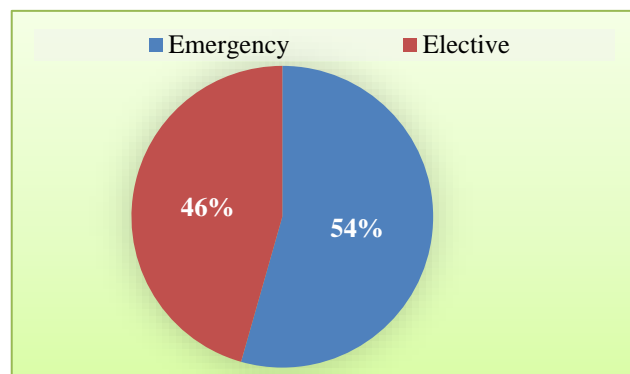


Figure 2: Distribution of cases according to timing of caesarean section.

In the intraoperative period out of 68 cases in 11 cases the previous scar was thinned out i.e in 16.1% cases. In

the present study majority of the neonates had birth weight between 2.5 to 3 kgs (45.6%) followed by 3.1 to 3.5 kgs (27.9%) followed by 3.6-4.0 kgs. 7.4% had birth weight less than 2.5 kgs and only 2.9% had birth weight of more than 4 kgs. The mean birth weight was 2.7 kg.

Out of 68 cases included in the study there were 4 cases with intrauterine fetal death. Out of 64 live births with 5 new borns required NICU admission i.e. 7.8%. Of which two cases were admitted for phototherapy and three cases were admitted because of low birth weight.

Table 2: Intraoperative findings: Adhesions between uterus and anterior abdominal wall and bladder.

Adhesions	Number	Percentage
Present	29	42.6
Absent	39	57.4

The mean hospital stay of the cases was 8 days. In some cases, the hospital stay was increased due to postoperative complications like wound infection, wound gaping and fever. Out of total 68 cases 3 cases required resuturing of the abdominal wound.

Table 3: Placental abnormalities seen in intra operative period.

Placental abnormality	Number	Percentage
Placenta previa	13	19.1
Adherent	4	5.8

DISCUSSION

The incidence of adhesions observed in present study was 42.6% which was higher than studies done by Tulandi et al, Juntanen et al but almost similar to study done by Morales et al⁸ as depicted in the table 5.^{3,7} In present study the incidence of placenta previa was 19.1% which is almost similar to the studies done by Ghourab et al i.e. 22.5% and Usta IM et al i.e. 15.6% in cases with previous two lower segment caesarean section.^{9,10}

Table 5: Incidence of adhesions observed in various studies.

Studies	Adhesions
Present study	42.6
Joseph et al ¹¹	34
Morales et al ⁸	46
Tulandi et al ⁷	24.4
Juntunen et al ³	27

The present study shows the incidence of placenta accreta in cases with previous two lower segment caesarean section to be 5.8%. In one study done by Silver et al in 2006 states that in the presence of placenta previa the risk of placenta accreta was 3%, 11%, 40%, 61% and 67% respectively for the first, second, third, fourth, and fifth or greater repeat caesarean deliveries respectively.¹⁰

On observing the status of previous scar during intra operative period the incidence of thin lower uterine segment was observed in 16.1% which is similar to Joseph et al¹¹ (17%) and Samar et al (18%) but was slightly higher than study conducted by Farkhundah et al i.e. 11.6%.^{11,12,13} In the present study the mean birth weight was 2.7 kgs. The birth weight according to various studies is as shown in Table 6. In the present study it was seen that incidence of NICU admission was 7.8% which was much lower than in the study done by Rashid M. et al in which incidence of NICU admission was 20%.¹⁴

Table 5: Mean birth weight according to various studies.

Studies	Mean birth weight
Present study	2.7 kg
Sobande A et al ¹⁵	2.970 kg
Rashid M et al ¹⁴	2.962 kg
Macones GA ¹⁶	3.392 kg
Cahill AG et al ¹⁷	2.046 kg

CONCLUSION

The present study shows that the maternal and perinatal morbidity and mortality is increased with increasing number of caesarean sections. So, trial of labour and use of labour analgesia should be promoted in order to reduce rate of primary caesarean section which can reduce the rate of placenta previa and adherent placenta in subsequent pregnancies.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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