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"Complications of Repeated Caesarean Sections At A Tertiary Care Hospital"

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Abstract:
Background*: In the light of increasing incidence of caesarean section and the complications associated with it, our study aims to evaluate the pregnancy outcomes (in terms of maternal and foetal complications) of repeated caesarean sections and to determine the influence of number of previous caesarean deliveries and type of current caesarean sections in such complications.*
Materials and Methods: *500 antenatal women attending Modern Government Maternity Hospital, Osmania Medical College, Hyderabad, India, during the period of Dec 2018 to May 2020 (18 mon), were included in the prospective observational study. Subjects were divided into single CS and multiple CS groups and also elective CS and emergency CS groups for evaluation.*
Results: *In the present study, in comparison between one previous caesarean section (single CS) and two or more caesarean sections (multiple CS), we found that the maternal age and the need for upper segment incision increased with increasing number of caesarean deliveries. Bladder and lower uterine complications like drawn up bladder, thinned out uterine segment and scar dehiscence were significantly higher. Even though abnormal placentation was not significantly different between groups, the blood loss, the subsequent hospital stay were higher in the multiple CS group and the likelihood of caesarean hysterectomy also increased. Postoperatively, prolonged urinary catheterisation was significantly higher in multiple CS. In spite of no significant difference between the birth weights, foetal morbidity in the form of respiratory distress, neonatal jaundice as well as NICU admissions showed significant increase in multiple CS.*
In our comparison between elective and emergency caesarean sections, there was higher frequency of iatrogenic prematurity in emergency CS and an unbooked case or a referral case was more likely to undergo an emergency CS. There was no significant difference in the anaesthesia used, abnormal placentation, blood loss, blood component transfusion, incidence of caesarean hysterectomy, hospital stay and HDU/ICU care postoperatively. Drawn-up bladder was significantly more common in emergency CS. Lower uterine segment complications like thinned out lower uterine segment and scar dehiscence were more common in emergency CS, but the difference was not statistically significant. Postoperative complications were not significantly different. The birth weight of the neonates and subsequently, NICU admissions were significantly lower in emergency CS.
Conclusion: *There is a slight but definite increase in the frequencies of complications with an increasing number of caesarean sections. This calls for a conscious effort to curtail this healthcare epidemic on the part of every obstetrician, by reducing the rates of primary caesarean sections, increasing the rates of TOLAC in well-selected cases and also by limiting the family size in general.*
Key Words: *Caesarean section, complications, foetal morbidity, elective vs emergency CS, multiple CS*

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I. INTRODUCTION

Caesarean Section is one of the most common operative procedures world-wide. The advent of aseptic technique, improved anaesthesia, antibiotic prophylaxis, availability of blood transfusion, pre and postoperative monitoring, lower segment caesarean section, made the surgery much safer and hence the increase in expanse of indications for caesarean section over the past few decades.

With greater access to hospital-based care, the rate of caesarean section in India has been increasing since the late 1980s. In the last decade, following programs like JSY and JSSK, the rate of institutional births reached 78.9% as per latest data in NFHS-4 (2015-16) with a dramatic increase in the caesarean section rate in the private sector by 413% and public sector by 311%.[1] While the WHO recommends the caesarean section rate of 10-15%,[2] India has a rate of 17.2% in 2015-16[1], increasing to 20% in 2018-19.[3] With the current trend, caesarean section rate proves to be a public health concern, both in terms of economic burden and possible complications.

Studies suggest that caesarean delivery has higher maternal surgical risks for the current and subsequent pregnancies compared with spontaneous vaginal delivery, balanced against lower rates of perineal injury and short-term pelvic floor disorders. For the neonate, it offers lower rates of birth trauma and stillbirth, but greater rates of initial respiratory difficulties.

The purpose of our study is to determine all the maternal and foetal complications associated with repeated caesarean sections and identify the statistical significance for the same.

II. AIMS AND OBJECTIVES

1. To determine the incidence of maternal anaesthetic, intraoperative and postoperative complications and neonatal complications, in cases with one or more previous caesarean deliveries.
2. To compare the incidence of such complications between the pregnancies with one previous caesarean section (single CS) and those with 2 or more previous caesarean sections (multiple CS) and find their statistical significance.
3. To compare the proportions of placental disorders like placenta previa and morbidly adherent placenta in both the groups.
4. To analyse the influence of type of the current caesarean section (elective or emergency) with the adverse maternal and neonatal outcome.

III. MATERIALS AND METHODS

It is a prospective observational study, conducted in Modern Government Maternity Hospital (MGMH), Petlaburj, Osmania Medical College, Hyderabad, India. 500 antenatal women attending antenatal clinics or emergency room, during an 18month period (Dec 2018 to May 2020) were selected at random, for the study. Subjects were divided into single CS, those who underwent their first caesarean Section and multiple CS, those who had at least one previous caesarean section; and also into elective CS and emergency CS groups, based on the timing of the surgery.

Inclusion criteria:

1. One or more previous transverse lower segment scar, irrespective of the parity, previous vaginal births, associated medical illnesses.
2. Pregnant women with gestational age from 28 weeks to 40 completed weeks.

Exclusion criteria:

1. Primary caesarean section.
2. History of other abdominal surgeries in the past.
3. Pregnant women with such medical conditions that can adversely affect the pregnancy outcomes and confound the current study (like abruption causing intrauterine foetal demise, needing blood transfusion and ICU stay in otherwise eligible women, twin gestation needing an early termination).

Procedure Methodology:

Subjects were included in the study after informed consent and data was collected using a pre-structure questionnaire. Thorough history was taken and the subjects were analysed for demographic parameters, past obstetric and medical history, perinatal parameters, operative course and postoperative course.

Statistical analysis:

Categorical data is represented in frequencies and proportions. Continuous data is represented as median and interquartile range.

Chi-square test* and Fisher-exact test$^{\#}$ were used as a test of significance for categorical data, wherever applicable and Mann-Whitney test$^{\wedge}$ for comparing medians.

p value (probability that the result is true) of <0.05 was considered statistically significant, after assuming all the rules of statistical tests.

IV. RESULTS

Among the 500 cases included in the study, single CS and multiple CS groups have 340 (68%) and 160 cases (32%) respectively. 212 cases (42.4%) had an elective CS, against 288 cases (57.6%) of emergency CS.

Table 1: Distribution of the subjects into groups

	Single CS	Multiple CS	Total
Elective CS	134	78	212
Emergency CS	206	82	288
Total	340	160	500

Table 2 compares the median maternal age at the time of the caesarean section. 258 cases (51.6%) were in the age group of 21-25yrs. The median age shows a significant difference between single and multiple CS (25yr vs 26yr), but not between elective and emergency CS (25yr vs 25yr).

Table 2: Median maternal age in different groups

	Single CS	Multiple CS	p value	Elective CS	Emergency CS	p value
Median	25	26	**<0.001**^	25	25	0.834^

Table 3 shows the gestational age at the time of repeat caesarean section. Of the total cases, 419 cases (83.8%) had a term (37-40wk) CS, 70 cases (14%) had a preterm (<37wk) CS and 11 cases (2.2%) had a postdated (>40wk) CS. A proportionately higher risk of iatrogenic prematurity was seen with an increasing number of sections in our study, but the difference was not statistically significant (11.5% vs 19.4%). Both a preterm CS (5.2% vs 20.5%) and a prolonged pregnancy section (0 vs 3.8%) were significantly more in the emergency CS group, compared to the elective CS group.

Table 3: Gestational age at the time of repeat caesarean section

Gestational age (in weeks)	Single CS	Multiple CS	p value	Elective CS	Emergency CS	p value
<34	5	5	0.544#	0	10	**<0.001**#
34 – 36^{+6}	34	26		11	49	
37 – 40	290	129		201	218	
>40	11	0		0	11	

Table 4 compares the booking status, where a booked case has at least 3 visits in our institute and unbooked cases include referrals. In our study, 313 (62.6%) were booked cases and 187 (37.4%) were unbooked cases. No statistically significant difference in booking status was noted between single CS and multiple CS (62.6% vs 62.5%), but the difference was significant between elective and emergency CS (74.1% vs 54.2%). Unbooked cases had a significantly higher emergency CS rate (70.6%).

Table 4: Booking status

	Single CS	Multiple CS	p value	Elective CS	Emergency CS	p value
Booked	213	100	0.975*	157	156	**<0.001***
Unbooked	127	60		55	132	

Table 5 demonstrates the type of anesthesia used for the procedure. 492 (98.4%) cases were done under regional anesthesia and 8 (1.6%) cases under general anesthesia. One emergency cesarean section had a complication of high spinal. The need for general anesthesia was not significantly different between single and multiple CS (1.8% vs 1.3%) or elective and emergency CS (0.1% vs 2.1%).

Table 5: Type of anaesthesia

	Single CS	Multiple CS	p value	Elective CS	Emergency CS	p value
Regional	334	158	1.000#	210	282	0.477#
General	6	2		2	6	

Table 6 compares lower segment CS with upper segment CS and signifies that the rate of upper segment incision was significantly higher in multiple CS group (0.6% vs 3.8%), either due to non accessibility of lower uterine segment secondary to adhesions or higher incidence of abnormal placentation. No statistically significant difference noted between elective and emergency CS (1.4% vs 1.7%).

Table 6: Lower segment vs Upper segment caesarean section

	Single CS	Multiple CS	p value	Elective CS	Emergency CS	p value
Lower segment	338	154	**0.015**#	209	283	1.000#
Upper segment	2	6		3	5	

Table 7 shows the bladder and lower uterine segment complications in different groups. 211 (42.2%) cases had a drawn up bladder .One case of bladder and ureteric injury noted, in a case of placenta percreta, necessitating ureteroneocystostomy and bladder repair. A drawn up bladder was significantly more common in multiple CS, compared to single CS (35.9% vs 55.6%) as well as emergency CS, compared to elective CS (36.3% vs 46.5%).

The lower uterine segment complications were significantly more common in multiple CS group (thinned out scar in 29.7% vs 42.5% and scar dehiscence in 4.1% vs 6.9%). Even though the complications are proportionately more in emergency CS compared to elective CS, the difference however was not found to be significant (thinned out scar in 29.2% vs 37.1% and scar dehiscence in 4.7% vs 5.2%). Lateral extension of the incision was noted in 14 cases (2.8% of the total cases) with no significant difference between the groups.

Table 7: Bladder and lower uterine segment complications

	Single CS	Multiple CS	p value	Elective CS	Emergency CS	p value
Drawn up bladder	122	89	**<0.001**[*]	77	134	**0.022**[*]
Thinned out LUS	101	68	**0.001**[#]	62	107	0.261[#]
Scar dehiscence	14	11		10	15	
Not approachable LUS	1	3		2	2	
Lateral extension of incision	12	2	0.150[#]	3	11	0.107[#]

Table 8 compares the type of placentation and the need for Caesarean Hysterectomy. In the current study, there were 11 cases (2.1%) of placenta previa, which include 5 cases (1%) of adherent or abnormal placenta (1 case of placenta percreta, 1 case of placenta increta and 3 cases of placenta accreta). The difference of incidences between normal and abnormal placentation was not statistically significant between single and multiple CS (1.5% vs 3.8%) as well as elective and emergency CS (0.5% vs 1.4%).

In the study sample, 5 cases (1%) had a caesarean hysterectomy, all in cases of abnormal placentation. The incidence of caesarean hysterectomy was 2 cases (0.54%) in single CS compared to 3 cases (1.88%) in multiple CS which was significantly more. Similarly, of the 5 cases needing caesarean hysterectomy,1 (20%) was elective CS and 4 (80%) were emergency CS, which again was statistically significant.

Table 8: Placentation and need for Caesarean Hysterectomy

	Single CS	Multiple CS	p value	Elective CS	Emergency CS	p value
Normal placenta	338	157	0.334[#]	211	284	0.401[#]
Adherent placenta	2	3		1	4	
Caesarean Hysterectomy	2	3	**<0.001**[#]	1	4	**<0.001**[#]

Table 9 compares the median blood loss and incidences of postpartum hemorrhage (blood loss > 1000ml) between the groups. The median blood loss is significantly higher in multiple CS compared to single CS (400ml vs 425 ml), but the difference in incidences of PPH was not statistically significant (5.6% vs 5%). Both the median blood loss (400ml vs 400ml) and incidences of PPH (5.2% vs 5.6%) were comparable in elective and emergency CS.

Table 9: Blood loss and Need for blood component transfusion

	Single CS	Multiple CS	p value	Elective CS	Emergency CS	p value
Median blood loss (ml)	400	425	**<0.001**[^]	400	400	0.947[^]
PPH	19	8	0.786[*]	11	16	0.857[*]
Blood Transfusion	26	10	0.573[*]	16	20	0.797*

The need for blood component transfusion was not significantly different between single and multiple CS (7.6% vs 6.3%) as well as between elective vs emergency CS (7.5% vs 6.9%).

Table 10 shows the duration and type of hospital stay. In our institute, the usual hospital-stay for a case of 1 or more previous LSCS is about 6 days. Median duration of hospital stay was significantly higher in multiple CS group compared to single CS (6 days vs 7 days), but no such difference was noted between elective and emergency CS groups (6 days vs 6 days). The HDU/ICU stay was found to be significantly higher in single CS compared to multiple CS (9.4% vs 8.9%), probably because of higher incidence of single CS, but the difference statistically insignificant between elective and emergency CS (6.1% vs 10.4%)

Table 10: Hospital stay – Duration and type of ward

	Single CS	Multiple CS	p value	Elective CS	Emergency CS	p value
Median (days)	6	7	**<0.001**[^]	6	6	0.737[^]
HDU	28	5	**0.015**[#]	9	24	0.180[#]
ICU	4	6		4	6	

Table 11 compares the postoperative complications among the groups. Except for a significantly higher incidence of prolonged urinary catheterization (>48 hours) in the multiple CS group, compared to single CS group (5.6% vs 14.4%), no significant difference was observed between single and multiple CS as well as elective and emergency CS. Apart from 9 cases of wound complications, 1 case of burst abdomen was noted in the single CS group.

Table 11: Postoperative complications

	Single CS	Multiple CS	p value	Elective CS	Emergency CS	p value
Wound Complications	5	4	0.476#	2	7	0.313#
Urinary Tract Infections	12	4	0.786#	5	11	0.359#
Respiratory Tract Infections	8	2	0.513#	2	8	0.202#
Prolonged urinary catheterization	19	23	**<0.001***	20	22	0.475*
Parenteral iron infusions	25	8	0.323*	16	17	0.464*

Table 12 shows the birth weight distribution and low birth weight (<2.5kg) was noted in 87 cases (46.2%). The difference in incidences of low birth weight was statistically insignificant between single and multiple CS groups (15.9% vs 20.6%). But, the low birth weight was significantly more in the emergency CS group compared to the elective CS group (12.7% vs 20.8%).

Table 12: Birth Weight distribution

Birthweight (kg)	Single CS	Multiple CS	p value	Elective CS	Emergency CS	p value
<2.5	54	33	0.192*	27	60	**0.018***
>2.5	286	127		185	228	

Table 13 compares neonatal morbidity and mortality, including the need for SNCU/NICU admissions in the neonates. SNCU/ NICU admission at the time of birth was seen in 132 cases (26.4%). The incidences showed a statistically significant difference between single and multiple CS (21.8% vs 36.2%) and elective and emergency CS (19.3% vs 31.6%).

Table 13: Neonatal morbidity & mortality and SNCU/NICU admission at the time of birth

	Single CS	Multiple CS	p value	Elective CS	Emergency CS	p value
Neonatal morbidity and mortality	41	32	**0.019***	25	48	0.127*
SNCU/NICU admission	74	58	**<0.001***	41	91	**0.002***

Figure 1 represents the distribution of neonatal morbidity and perinatal mortality in single vs multiple CS groups.

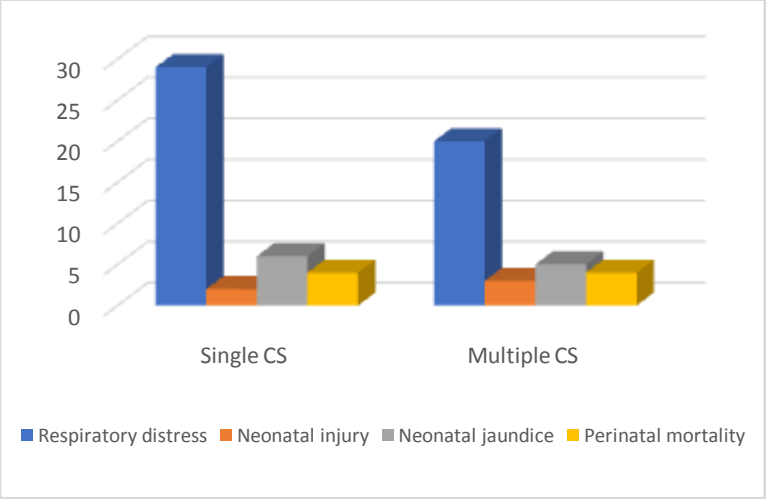

Figure 1: Neonatal morbidity and perinatal mortality

Among the total cases, there were 49 cases (9.8%) of respiratory distress, 11 cases (2.2%) of neonatal jaundice and 5 cases (1%) of neonatal injury. Perinatal mortality was seen in 8 cases (1.6%), 2 cases in elective and 6 cases in emergency CS respectively.

The overall neonatal morbidity and mortality was 41 cases (12.1%) in single CS, compared to 32 cases (20%) in multiple CS, showing that the incidence was significantly higher in the latter. The incidence was 25 cases (34.2%) and 48 cases (65.8%) in elective CS and emergency CS respectively, with no significant difference.

V. DISCUSSION

In the present study, out of the 500 cases, 340 cases (68%) had one previous caesarean section (single CS group) and 160 cases (32%) had two or more caesarean sections (multiple CS group).

In our study, 51.6% of women belonged to an age group of 21-25 years, with the median age in the single CS group being 25years, as opposed to 26years in the multiple CS group. The mean age of cases in single and multiple CS groups in other similar studies were noted as: Silver et al (29.5yr, 30.1yr), Sobande et al (30yr, 31.8yr) and Wuttikonsammakit et al (32.1yr, 33.4yr), probably because of higher age at the time of marriage and conception in those populations.[4,5,6] The difference was found to be significant in our study as well as the other studies.

In the current study, 83.8% of the cases had a term (37- 40 wk) caesarean section, similar to the study conducted by Afroza Ghani et al with 83.3%.[7]

In our study, 37.4% cases of single CS group and 37.5% of multiple CS group were unbooked cases or referrals, the difference not statistically significant. However, in the study conducted by Sobande et al, the proportion of unbooked cases was 50.7% in single CS group, against a 16.5% in multiple CS group, showing a significant difference.[5]

Regional anesthesia was predominantly used in our study with the need for general anesthesia in 1.8% of the single CS group, compared to 1.3% of the multiple CS group, in our study. The incidence of general anaesthesia in the study by Wuttikonsommakit et al was 2.5% and 1.4% respectively in single and multiple CS groups.[6]

In our study, 0.6% of the single CS cases had an upper segment caesarean section (including a classical caesarean section), for indications like placenta previa, adherent placenta and not approachable lower segment, against 3.8% of the multiple CS group, a significant difference. A similar study showing the incidence of upper segment CS couldn't be found for comparison.

A significantly higher frequency of bladder advancement was noted in the multiple CS group at 55.6%, against a 35.9% in the single CS group in the current study. A similar increasing trend was observed in the study by Somani et al, with 15.5% and 36.2% in single and multiple CS groups respectively.[8] Bladder and ureteral injury were seen in one case of placenta percreta in our study, accounting to 0.2%. Similar findings of bladder injury were seen in the studies of Wuttikonsammakit et al, Afroza Ghani et al and Kursheed et al with 0.2%, 1.96% and 0.8% respectively.[6,7,9] In a study conducted by Silver et al, 0.03% of the cases had a ureteral injury.[4]

In our study, the thinned out lower segment was seen to increase significantly with the number of previous caesarean sections, with 28% cases in single CS group and 42.5% in multiple CS group. Similar findings were obtained in the studies by Somani et al (21.1%, 36.2%) and Khursheed et al (8.7%, 14.3%) respectively.[8,9] In the present study, scar dehiscence was noted in 4.1% and 6.9% of the single CS and multiple CS groups respectively. However, controversial trends were seen in the studies done by Somani et al (7%, 31.9%) and Khursheed et al (7.8%, 4.8%).[8,9] Lateral extension of the incision site was observed in 3.5% and 1.3% of the single CS and multiple CS group respectively in our study, the difference not statistically significant. However, the incidences of the same in the study conducted by Somani et al were 9.9% and 19.2% respectively.[8]

In our current study, 2.1% of the cases had a placenta previa, 1.5% in the single CS group and 3.8% in the multiple CS group. The overall incidence of placenta previa was noted as 3.94% and 10% in studies done by Afroza Ghani et al and Poonia et al respectively.[7,10] The incidences in single and multiple CS were as follows: Sobande et al (3.1%, 3.4%), Khursheed et al (2.6%, 2.4%), and Kaplanoglu et al (1.5%, 2.9%).[5,9,11] The incidence of adherent placenta in our study was 5 cases (1%), which was similar to that of Afroza Ghani et al and Somani et al with incidences of 0.98% and 0.8% respectively.[7,8] In the current study, the incidence of adherent placenta was 0.6% in single CS group and 1.9% in multiple CS group, which was not statistically different. The incidences respectively in the other studies were as follows: Silver et al (0.3%, 0.6%), Khursheed et al (0.8% each) and Kaplanoglu et al (0.8%, 1.3%).[4,9,11]

A significant difference between the median blood loss in single CS group and multiple CS group was noted in our study with 400ml (IQR 300-550ml) and 425 (IQR 375-600 ml) respectively. However, a significant difference was not seen in the studies conducted by Wuttikonsammakit et al, where the median blood loss in both the groups is 500 ml each and Sobande et al, with a mean blood loss of 415ml in 1 LSCS group and 436 in 3 or more LSCS group. Postpartum haemorrhage (>1000ml) was noted in 5.6% and 5% of single CS and multiple CS groups respectively, in our present study. The incidence in other studies was noted as follows: Wuttikonsammakit et al (6.3% each) and Somani et al (7.04%, 19.15%).[6,8]

In our present study, a total of 7.2% of cases needed blood transfusions, with an incidence of 7.6% in the single CS group and 6.3% in the multiple CS group. But the incidence was only 2.2% in the study by Wuttikonsammakit et al[6] and the incidence in single CS group and multiple CS group respectively were as follows: Silver et al (1.1%, 0.6%), Sobande et al (3.9%, 3.4%), and Kaplanoglu et al (2.1%, 3%).[4,5,11]

In our study, the incidence of Caesarean Hysterectomy was 1% with 0.6% and 1.9% respectively in single CS and multiple CS groups, which was statistically significant. Afroza Ghani et al reported an incidence

of 1.96%.[7] A similar trend of increasing incidence with increasing number of CS was seen in the studies conducted by Sobande et al (0.4%, 0.9%) and Kaplanoglu et al (0.4%, 1%).[5,11] Silver et al also demonstrated a significant increase in the incidence of Caesarean Hysterectomy with higher number of previous caesarean sections.[4]

The duration of hospital stay was found to be significantly increasing in our study with increasing number of caesarean sections, but a statistical significance was not seen in the study conducted by Wuttikonsammakit et al.[6] The incidence of cases needing HDU/ICU care postoperatively was 9.4% in single CS group and is 6.9% in the multiple CS group in the present study. This could be due to the higher proportion of patients in the single CS group. The incidence however was noted as 0.7% and 0.6% respectively, in the study by Kaplanoglu et al.[11]The incidence of wound complications in our study was 1.85% compared to 0.4% in Wuttikonsammakit et al and 11.76% in Afroza Ghani et al.[6,7] The incidence of low birth weight neonates (<2.5kg) in single CS and multiple CS group were 15.9% and 20.6% respectively, in our study, with no significant difference. This incidence in the study conducted by Wuttikonsammakit et al was only 1.1% and that by Afroza Ghani et al was 5.88% respectively.[6,7]

In the present study, NICU admission was seen in 26.4% of cases, with a significant difference between single and multiple CS groups (21.8% vs 36.3%). This incidence was found to be 18.6% in Afroza Ghani et al study.[7] Wuttikonsammakit et al reported incidences of 19.8% and 22.1% respectively in single CS and multiple CS groups.[6] Perinatal mortality was about 1.6% in our study and Afroza Ghani et al had a similar finding of 1.96% perinatal mortality.[7]

In our study, the elective CS and emergency CS were 42.4% and 57.6% respectively, with a median age of 25 years each. In the study conducted by Soukayna Benzouina et al, the incidences were 24.15% and 75.85% respectively. The mean ages in both the groups were 31.5yr and 27.8yr respectively.[12] In the present study, 49.8% of the booked cases had an emergency CS, whereas 70.6% of the unbooked cases had an emergency CS, showing a significant difference. A similar trend of 67.6% of booked cases and 92.8% of the unbooked cases undergoing emergency CS was observed in the study conducted by Soukayna Benzouina et al.[12] A need for general anaesthesia was noted in 0.9% of elective CS and 2.1% of emergency CS in our study, whereas in the study by Soukayna Benzouina et al, all the elective CS were performed under a regional anaesthesia, against 8.52% of the emergency CS needing general anaesthesia.[12] Preterm deliveries were noted in 5.2% and 20.5% of elective and emergency CS respectively in our study. Similarly, a significant difference was also noted in the study of Soukayna Benzouina et al with 0.7% and 4.7% of preterm deliveries in elective and emergency CS respectively.[12] In our study, neonatal morbidity was observed in 65 cases(13%), among which 42 cases (64.6%) were seen in emergency CS, which was not significant. On the contrary, Soukayna Benzouina reported a neonatal morbidity rate of 28.2%, with 90.36% among those in emergency CS, a significantly higher incidence.[12] Respiratory distress, the most frequent neonatal morbidity, accounted for 9.8% of all the cases in the current study, of which 63.3% were in emergency CS. A similar, but statistically significant, 89.6% respiratory morbidity among the 8.2% of cases was noted in the emergency CS group by Soukayna Benzouina et al.[12] Perinatal mortality of 1.6% was noted, with 75% of those among emergency CS in our study. However, Soukayna Benzouina et al reported a perinatal mortality of 1.02% with all the cases in emergency CS group only.[12]

VI. CONCLUSION

Caesarean section can be a safer alternative for obstetrically indicated cases, but there is a slight but definite increase in the frequencies of complications with increasing number of caesarean sections. The incidence of intraabdominal adhesions and abnormal placentation associated with previous caesarean sections can increase the operative time, surgical complications and the need for caesarean hysterectomy, apart from postoperative and anaesthetic complications inherent to the procedure. Even though foetal compromise is reduced in indicated cases, there is a slight increase in the initial respiratory difficulties. Reducing the rates of primary caesarean sections and caesarean sections at maternal request (CSMR), counselling the women for vaginal deliveries, encouraging and imparting the skill of operative vaginal deliveries, regular auditing with standard tools like Robson's classification and increasing the rates of TOLAC in well selected cases will help reducing the number of caesarean sections. Limiting the number of pregnancies at two or three, in general and specifically in those undergoing a CS, will subsequently reduce the need for a repeat caesarean section and thus, the incidence of abnormal placentation and its associated complications. This calls for a conscious effort to curtail this healthcare epidemic on the part of every obstetrician.

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