



ASSOCIATION OF DIFFERENT FACTORS LIKE AGE, DURATION OF SURGERY, INTRAOPERATIVE BLOOD LOSS, HYSTERECTOMY DONE OR NOT WITH POSTOPERATIVE OUTCOME IN PATIENTS OF PLACENTAL ABNORMALITIES UNDERGOING LOWER SEGMENT CAESAREAN SECTION.

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ABSTRACT

The placenta adheres to the decidua basalis layer, facilitating its separation from the uterine wall after childbirth. However, abnormal placentation can lead to the placenta invading beyond the decidua basalis layer. The present study was performed to assess the association of different clinical factors with postoperative outcome. **Methods:** This cross-sectional study included 42 patients that underwent lower segment caesarean section due to placental abnormalities, diagnosed preoperatively or during surgery in Sri Aurobindo Institute of Medical Sciences, Indore (MP). All associated clinical factors were observed. Due to the low number of cases, pairwise comparisons were performed using the Mann-Whitney U test, while categorical variables were compared using the chi-square test. A p-value of <0.05 was considered statistically significant. **Results:** The duration of surgery and intraoperative blood loss were significantly higher in patients with placenta percreta as compared to other patients ($p < 0.001$). Placenta percreta significantly prolonged length of ICU stay as compared to other patients ($p = 0.003$). Hysterectomy was done more in placenta percreta ($p = 0.004$) under general anaesthesia as compared to others ($p = 0.001$). **Conclusion:** The study demonstrated that the proactive measures should be taken such as to prevent maternal hypotension; initiating neuraxial block before surgery; transitioning to general anaesthesia after neuraxial induction, particularly in cases if hysterectomy to be done, or administering general anaesthesia before surgery begins; thorough preparation of blood products and fluids prior to surgery.

KEYWORDS : caesarean section, abnormally invasive placenta, placenta previa, placenta percreta, placenta accreta, placental abnormalities, general anaesthesia, sub arachnoid block.

INTRODUCTION

Normally, the placenta adheres to the decidua basalis layer, facilitating its separation from the uterine wall after childbirth. However, abnormal placentation can lead to the placenta invading beyond the decidua basalis layer. Placental abnormalities present in distinct forms like placenta accreta, where villi adhere abnormally to the myometrium surface; placenta increta, where villi penetrate deeper into the myometrium; placenta percreta, where villi breach through the uterine serosa and can involve neighbouring organs such as the cervix, bladder, or bowel; placenta previa, where the placenta implants totally or partially in the lower segment of the uterus rather than in the fundus; and abruptio placentae, where there is early separation of placenta from the lining of the uterus before the completion of the second stage of labor. Risk factors include increased maternal age, previous caesarean delivery or myomectomy, multiparity, and previous intrauterine manoeuvres such as hysteroscopy and multiple dilatation and curettage. In management, careful consideration of anaesthesia technique is paramount due to prolonged operative times, substantial risk of haemorrhage, necessity for hysterectomy, and increased likelihood of postoperative ICU admission.

MATERIAL AND METHODS

After obtaining ethical committee approval of our institute and patients informed consent, 42 patients were included in a cross-sectional study. Patients not giving consent, with known drug allergy to local anaesthetic agents, with contraindication of sub-arachnoid block were excluded.

Patients of lower segment caesarean section were followed over four months. Of those, patients with placental abnormalities were included. All associated clinical factors in terms of age, duration of surgery, intraoperative blood loss, length of stay in ICU; type of anaesthesia and hysterectomy done or not with postoperative outcome were observed.

Sampling was stopped once duration of study completed.

RESULTS

Out of the 42 patients, 18 were detected with abruptio placentae, 6 with placenta accreta, 13 with placenta previa, 3 with placenta increta, and 2 with placenta percreta. The ages of the patients ranged between 25 and 35 (mean 30) years. Of the 42 patients, 05 (12%) underwent general anaesthesia, 34 (81%) underwent sub arachnoid block, and 03 (7%) underwent sub arachnoid block followed by general anaesthesia. General anaesthesia was performed in 03 patients with placenta increta, in 02 patients with placenta percreta and in 02 patients with placenta previa. Sub-arachnoid block was performed in 32 patients with placenta previa, placenta accreta and abruptio placentae. Sub arachnoid block followed by general anaesthesia was performed in 02 patients with placenta accreta and 01 patient with abruptio placentae.

The duration of surgery and intraoperative blood loss were significantly higher in patients with placenta percreta as compared to other patients ($p < 0.001$)

Placenta percreta significantly prolonged length of ICU stay as compared to other patients ($p = 0.003$). Hysterectomy was done significantly more in placenta percreta as compared to others ($p = 0.004$)

Number of cases done under sub arachnoid block were significantly higher than other type of anaesthesia ($p = 0.001$)

In patients who underwent general anaesthesia, the duration of surgery was significantly longer and intraoperative blood loss was significantly higher as compared to other patients ($p < 0.001$); the length of postoperative ICU stay was significantly higher as compared to those of other patients ($p = 0.003$)

Table 1: Comparison of patients with placental abnormalities

	Abruptio placenta n= 18	Placenta previa n= 13	Placenta accreta n= 6	Placenta increta n= 3	Placenta percreta n= 2	P value
Age (yrs)	29 (25-35)	31 (25-35)	30 (25-35)	30 (25-35)	31 (27-33)	0.501*
Duration of surgery (mins)	90 (40-120)	90 (40-120)	95 (40-120)	100 (40-120)	105 (40-150)	<0.001*
Blood loss (mL)	600 (400-1200)	550 (400-1200)	700 (400-1500)	900 (400-1500)	1100 (600-3000)	<0.001*
Length of ICU stay (days)	0 (0-5)	0 (0-5)	0 (0-5)	0 (0-5)	1 (0-5)	0.003*
Type of anaesthesia						0.001**
a. General	-	02 (15.3%)	-	03 (100%)	02 (100%)	
b. Sub arachnoid block	17 (94.4%)	11 (84.6%)	04 (66.6%)	-	-	
c. Sub arachnoid block converted to general anaesthesia	01 (5.6%)	-	02 (33.4%)	-	-	
Hysterectomy						0.004**
a. Performed	01 (5.6%)	02 (15.3%)	02 (33.4%)	03 (100%)	02 (100%)	
b. Not performed	17 (94.4%)	11 (84.6%)	04 (66.6%)	-	-	

Table 2: Comparison of patients according to type of anaesthesia

	Sub-arachnoid block	General anaesthesia	Sub arachnoid block converted to general anaesthesia	P value
Duration of surgery (mins)	55 (50-160)	80 (60-180)	160 (120-200)	<0.001*
Blood loss (mL)	350 (250-1500)	800 (350-2500)	1500 (900-2500)	<0.001*
Length of ICU stay (days)	0 (0-5)	0 (0-4)	2 (0-4)	<0.003*
Hysterectomy				
a. Performed	-	07 (16.6%)	03 (7%)	0.001**
b. Not performed	32 (76.1%)	-	-	

*Mann Whitney U test, **Chi square test

Discussion

Duration of surgery was on lower side in regional anaesthesia than general anaesthesia. The maximum blood loss was 800 mL in patients who underwent general anaesthesia as opposed to 350 mL in patients who underwent spinal anaesthesia. Patients who underwent both spinal and general anaesthesia, maximum blood loss was 1500 mL. Neuraxial blocks were effective with the option to switch to general anaesthesia as required, particularly for caesarean hysterectomy. Three cases initially underwent sub arachnoid block and then converted to general anaesthesia.

CONCLUSION

In the study, regional anaesthesia showed potential for reducing postoperative ICU admissions and length of stay compared to general anaesthesia. Effective management of patients requires a coordinated team of highly skilled professionals and thorough preparation of blood products and fluids prior to surgery.

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