Journal of Population Therapeutics & Clinical Pharmacology

RESEARCH ARTICLE
DOI: 10.53555/5y4xek10

A COMPARATIVE STUDY OF FETOMATERNAL OUTCOMES IN PRIMARY CAESAREAN SECTION IN PRIMIGRAVIDA AND MULTIGRAVIDA

Dr.Devarasetty Lakshmi Naga Prathyusha[1], Dr.B.Balaji Naik[2*], Dr.E.Lavanya Bai[3], Dr.K.Radha[4]

[1] Post Graduate, Department of Obstetrics & Gynaecology, S.V. Medical College, Tirupati, Andhra Pradesh, India
[2] *Assistant Professor, Department of Obstetrics & Gynaecology, S.V. Medical College, Tirupati, Andhra Pradesh, India
[3] Assistant Professor, Department of Obstetrics & Gynaecology, S.V. Medical College, Tirupati, Andhra Pradesh, India
[4] Professor, Department of Obstetrics & Gynaecology, S.V. Medical College, Tirupati, Andhra Pradesh, India

***Correcponding Author:** Dr.B.Balaji Naik
***Assistant Professor, Department of Obstetrics & Gynaecology, S.V. Medical College, Tirupati, Andhra Pradesh, India

ABSTRACT

Objectives: To analyze the fetal and maternal outcomes in primigravida and multigravida who underwent primary caesarean section.

Methods: This observational, prospective study was conducted at a tertiary care hospital in Tirupati. 150 prmigravida and 150 multigravida women who underwent primary caesarean section were included.

Results: Most common indication in both the groups was fetal distress (32% of primigravida and 25% of multigravida). 14% and 32% multigravida women required blood transfusion and Iron sucrose infusions respectively. In 2.67% multigravida women, angle extension occurred intraoperatively. 18% multigravida women had surgical site infections. Post operative ileus was more in primigravida women (11.3%). RDS incidence was more in babies born to multigravida women (13.3%), whereas Birth asphyxia was more in babies born to primigravida women (7.3%)

Conclusion: The above insights help in understanding the need of good antepartum, intrapartum and postpartum care to reduce maternal and perinatal mortality and morbidity. Evidence based practices along with caesarean section audit can reduce caesarean section rates.

Key words: Primary caesarean section, primigravida, multigravida, intraoperative complications, post operative complications, perinatal mortality

Introduction:

Cesarean section is one of the most widely performed surgical procedures across the world. The safety of caesarean section has been enhanced over decades due to upgraded anesthetic techniques. Despite remarkable improvements in safety, cesarean section is associated with an increased risk of maternal morbidity and mortality.[1]

The rate of cesarean section is increasing beyond the recommended level of 5-15% by WHO.[2] There are various factors contribute to the discrepancy in cesarean section rates, such as practice style, practice culture, the environment of the hospital, payment source, patient's preference, and socioeconomic status.[3]

It is often considered to potentially benefit the fetus, reduce neonatal mortality, and give a healthy child. It also hikes the complications in later pregnancies. These risks are increasing gradually due to the rise in the cesarean section rate. It is also related to the long-term effects on neonates like increased risk of asthma and obesity in children.[4]

In a paper entitled "The dangerous multipara" published in 1934, Dr. Bethel Solomon stated "My object in writing this paper and giving it a sensational title is to remove if possible once and for all, from the mind of the reader, the idea that a primigravida means difficult labour, but a multipara means an easy one. The primigravida gives the impression of difficulty just because she is an unknown entity and more attention is focused on her than the women who have "done it before" but it is altogether a mistake to suppose in childbearing "practice makes perfect".[5]

Aims and Objectives

To analyse the fetomaternal outcomes in primigravida and multigravida undergoing primary caesarean section

Materials and Methods

This study was a Prospective Observational study conducted on 300 pregnant women who underwent primary caesarean section at Tertiary Care Hospital, Tirupati (150 primigravida and 150 multigravida)

Inclusion Criteria: Antenatal women with term gestational age (>37 weeks of pregnancy) and without previous uterine surgeries like myomectomy, hysterotomy

Exclusion Criteria: Previous myomectomy, Previous LSCS, Previous Hysterotomy, Deteriorated renal/liver functions, Any other illnesses like diabetes mellitus and hypertension

Method of collecting data:

Patients aged 18-30 years pregnancy >37wks undergoing primary caesarean section were included in this prospective, observational study after obtaining approval of the local ethical committee and an informed written consent from all participants.

On admission, thorough clinical examination including general physical examination, built, nourishment, height, weight, BP, pulse along with pallor, pedal edema were noted. CVS, RS examination were done. Abdominal examination was done for height of uterus in weeks, lie of the fetus, presentation, position of the fetus and fetal heart rate.

Blood investigations including CBC, RBS, RFT, LFT, urine routine evaluated. USG with doppler done for fetal well-being. Maternal vitals will be monitored by 1⁄2 hrly TPR, 2 hrly BP chart preoperatively and postoperatively.Maternal outcomes and fetal outcomes were compared in both groups Data Analysis: The collected data was analyzed with EPI INFO statistics software.

Results

Table 01: Age distribution among Primigravida and Multigravida groups (n=300)

Age group (in years)	**Group**				**X^2-value**	**p-value**
	Primigravida		**Multigravida**			
	N	%	N	%		
≤ 20	43	28.67	15	10.00		
21 – 25	69	46.00	68	45.33		
26 – 30	31	20.67	44	29.33	**24.311**	**<0.001***
> 30	07	4.67	23	15.33		
Total	**150**	**100**	**150**	**100**		

(*p<0.05 is statistically significant)

Table 02: Indications for caesarean section among Primigravida and Multigravida groups (n=300)

Indication of caesarean section	Group			
	Primigravida		Multigravida	
	N	%	N	%
Obstructed Labour	0	0%	1	0.67%
CPD	18	12.00%	10	6.67%
Fetal Distress	48	32.00%	38	25.33%
Secondary arrest of descent	8	5.33%	12	8.00%
IUGR with fetal distress	6	4.00%	9	6.00%
Failed induction	17	11.33%	11	7.33%
Failed progression	12	8.00%	3	2.00%
Breech presentation	10	6.67%	30	20.00%
Severe oligohydramnios	12	8.00%	19	12.67%

Table 03: Blood transfusion requirement among Primigravida and Multigravida groups (n=300)

Blood transfusion	Group				X^2-value	p-value
	Primigravida		Multigravida			
	N	%	N	%		
Required	05	3.34	21	14.00	**10.780**	**0.001***
Not required	145	96.67	129	86.00		
Total	**150**	**100**	**150**	**100**		

(*p<0.05 is statistically significant)

Table 04: Iron sucrose infusion among Primigravida and Multigravida groups (n=300)

Iron sucrose infusion	Group				X^2-value	p-value
	Primigravida		Multigravida			
	N	%	N	%		
Present	27	18.00	48	32.00	**7.84**	**0.005***
Absent	123	82.00	102	68.00		
Total	**150**	**100**	**150**	**100**		

(*p<0.05 is statistically significant)

Table 05: Intra-operative complications among Primigravida and Multigravida groups (n=300)

Intra-operative complications	Group				X^2-value	p-value
	Primigravida		Multigravida			
	N	%	N	%		
Nil	146	97.33	133	88.67	**8.655**	**0.013***
Angle extension	01	0.67	04	2.67		
Odematous bladder	03	2.00	13	8.66		
Total	**150**	**100**	**150**	**100**		

(*p<0.05 is statistically significant)

Table 06: Post-operative complications among Primigravida and Multigravida groups (n=300)

Post-operative complications	Group			
	Primigravida		Multigravida	
	N	%	N	%
Nil	126	84.00	131	87.33
SSI	21	14.00	27	18.00
Post-op ileus	17	11.33	09	6.00
Fever	22	14.67	12	8.00
URTI	04	2.67	06	4.00

Table 07: Mean birth weight of neonates among Primigravida and Multigravida groups (n=300)

Variable	Group				t-value	p-value
	Primigravida		Multigravida			
	Mean	SD	Mean	SD		
Birth weight of neonates	2.86	0.5	2.96	0.7	1.423	0.155

Table 08: Indication for SNCU/ NICU admission among Primigravida and Multigravida groups (n=300)

Indication for SNCU/ NICU admission	Group				X^2-value	p-value
	Primigravida		Multigravida			
	N	%	N	%		
Nil	117	78.00	115	76.67	1.965	0.579
RDS	14	9.34	20	13.33		
BA	11	7.33	07	4.67		
MAS	08	5.33	08	5.33		
Total	**150**	**100**	**150**	**100**		

Table 09: Final status of the baby among Primigravida and Multigravida groups (n=300)

Final status of the baby	Group				X^2-value	p-value
	Primigravida		Multigravida			
	N	%	N	%		
Healthy	148	98.67	149	99.33	-	1.000
SNCU/ dead	02	1.33	01	0.67		
Total	**150**	**100**	**150**	**100**		

Discussion:

Indications for primary caesarean sections in primigravida like fetal distress, CPD, prolonged PROM, precious pregnancy were nearly similar to Prajapati N et al., study. [6] Indications like failed progression, severe oligohydramnios were nearly similar to Bablad A et al., study. [7] Indications like failed induction, breech presentation were nearly similar to Malapure P et al., study. [8] Indications for primary caesarean section in multigravida like fetal distress, severe oligohydramnios and failed induction were nearly similar to Sree Sailaja P et al., study. [9]

Incidence of PPH in primigravida underwent primary caesarean section was more in the present study (10.67%) compared to Bamon W et al., study [10] (4.2%), but the need of blood transfusion was less. In the present study, incidence of PPH in multigravida who underwent primary caesarean section (10.67%) was less compared to Bamon W et al., study [10] (33.3%), but the need of blood transfusion was similar in both studies. Incidence of uterine angle extension was more in Bamon W

et al., study [10] compared to the present study. Bladder injury was noted in 2.2% multigravida cases in Prajapati N et al., study. [6]

The incidence of wound gap in primigravida cases were more in the present study compared to Prajapati N et al., and Bamon W et al., studies. [6, 10] The incidence of wound gaping in multigravida cases in the present study is similar to Prajapati N et al., study. [6]

In the present study, 22% of babies born to primigravida and 23.33% of babies born to multigravida were admitted in SNCU/ NICU. In a study done by Bamon W et al., [10] 10.6% babies born to primigravida and 7.8% babies born to multigravida were admitted in NICU.

In this study, 13.33% babies born to multigravida cases were admitted into SNCU/ NICU due to respiratory distress which was more than that observed in Kumar R et al., study. [11] In this study 4.67% babies born to multigravida were admitted into SNCU/ NICU due to birth asphyxia which was similar to Sree Sailaja P et al., study [9] and 5.33% babies were admitted into SNCU/ NICU due to meconium aspiration syndrome which was less compared to Sree Sailaja P et al., study. [9]

In the present study, no cases of still birth were reported and 1% (3 babies) of babies were expired. 2 babies among them were born to primigravida cases and 1 baby was born to multigravida case. Among 2 babies expired (born to primigravida) 1 baby has congenital anomaly (congenital diaphragmatic hernia) and the other died due to severe birth asphyxia.

In Priyadarshene P et al., study, [12] 2.7% neonatal death and 5.2% babies of still birth were reported, which was higher compared to the present study. In Radhika et al., study, [13] 1.29% babies born to multigravida were born still and 9.05% babies born to multigravida were expired.

With increasing age and increasing gravida status, complications increase, leading to higher rate of maternal and neonatal morbidity and mortality. Of all the cases of multigravida in the present study, one case was 41 year old grand multigravida with obstetrical formula G9P8L8 with 39 weeks gestational age came with false labour pains and admitted for safe confinement. At 39wks 2 days gestational age, she was induced as her bishops score was 5 and ended up in caesarean section in view of failed induction. Her intraoperative period was uneventful, except for edematous bladder. No post partum hemorrhage was noticed. Post operatively 2 units of packed cell were transfused in view of anemia. Post operative period was uneventful and she was discharged on POD-9.

Conclusion:

Caesarean section rates hike in the recent years. This may be attributed to the increase in precious pregnancy rates either due to late marriages or failure to conceive spontaneously (increased rate of infertility and using artificial reproductive techniques) and also increase in early detection of fetal distress due to improved intrapartum monitoring. Good intrapartum and postpartum care reduced maternal and perinatal mortality and morbidity. Evidence based practices along with caesarean section audit can reduce caesarean section rates.

Funding: Nil

Conflict of Interest: None

References:

1. Sharmila G, Nishitha C. Study of primary caesarean section in multigravida. Asian pacific journal of health sciences. 2016;3(4):89-94.
2. Munusamy MD, Sengodan SS, Duraisamy KU. Primary caesarean section in multigravida. International Journal of Reproduction, Contraception, Obstetrics and Gynecology. 2018 Feb 27;7(3):961-5.
3. Rajput N, Singh P, Verma YS. Study of primary caesarean section in multigravida patients. International Journal of Reproduction, Contraception, Obstetrics and Gynecology. 2017 Dec 25;7(1):185-91
4. WHO recommendation: non-clinical interventions to reduce unnecessary cesarean section; 2018. ISBN:978-92-4-155033-8.

5. Solomon B. The dangerous multipara. Lancet 1932; 2: 8-11.
6. Prajapati N, Chikkamath S, Mallapur A. Comparision of indications and complications of primary caesarean sections in primigravida and multigravida: A record based case series study. Medica Innovatica 2019; 8(2): 26-30.
7. Bablad A. Cesarean Section in Primiparous Women: A Retrospective Study. J South Asian Feder Obst Gynae 2021;13(1):15–17.
8. Malapure P, Sumayya, Rajeshwari P, Sreelatha S. Risk factors for caesarean section in primigravidae. The New Indian Journal of OBGYN 2019 (July-December); 6(1).
9. Sree Sailaja P, Kavitha G. Study of primary caesarean section in multigravida. *J. Evid. Based Med. Healthc. 2019; 6(45), 2900-2903. DOI: 10.18410/jebmh/2019/604.*
10. Bamon W, Goswami S. N, Saikia N. A Comparative Study of Primary Caesarean Section in Primigravida and Multigravida in a Tertiary Care Hospital in SHillong, Meghalaya. *Sch Int J Obstet Gynaec, 4*(6): 225-260.
11. Kumar R, Chaudhary E, Dhama V, Singh S. Clinical study of primary caesarean section among multigravida in a tertiary care hospital. Int J Reprod Contracept Obstet Gynecol. 2023 Mar;12(3):665-670.
12. Priyadarsene P, Vilvapriya S, Kavitha S, Janani S. Primary cesarean section: A prospective cross sectional study. International Journal of Clinical Obstetrics and Gynaecology 2021; 5(1): 152-155.
13. Dr.T.Radhika, Dr.G.Soumini: Study of Primary Caesarean Section in Multigravidae. Global Journal for Research Analysis 2017. Volume-6, Issue-11, ISSN No 2277-8160.