Frequency and Indications of Lower Segment Cesarean Section in Multiparous Women with previous Normal Deliveries

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Abstract

Background: Cesarean section has become a frequent practice in recent years while this increase has been seen in developing as well as developed countries.

Objective: To determine the frequency of lower segment cesarean section along with its indications in multiparous women with previous normal deliveries.

Methodology: This was a cross-sectional study, done at the Department of Gynaecology & Obstetrics, Nishtar Hospital, Multan, from 20th July 2018 to 20th January 2019. A total of 222 pregnant women with live singleton pregnancy at term with gestational age between 37 to 41 weeks and multipara with no previous Lower Segment Cesarean Section (LSCS) were included in the study. The decision to undertake LSCS if indicated was made in every case after complete assessment. Data was collected for the frequency of LSCS and its indications in the shape of fetal distress, antepartum hemorrhage, and malpresentation. Data were analyzed by using SPSS 21.

Results: Mean age was 32±1.9 years, mean height of 1.55±0.11 meters, and mean BMI was 27±3.1 Kg/m2. Most women were 31-35 years (90.5%) of age and 2-4 parity (89.2%). Primary cesarean section was seen in 43 patients (19.4%). Indications for primary cesarean section were malpresentation 27.9%, fetal distress 41.9%, and antepartum hemorrhage 30.2%. The frequency of LSCS in multiparous women with previous normal deliveries was noted to be 19.4%.

Conclusion: The frequency of LSCS was found to be in one-fifth of multiparous women with previous normal deliveries. Fetal distress turned out to be the commonest indication for primary cesarean followed by antepartum hemorrhage and malpresentation.

Keywords: Multiparity, Caesarean section, Indications, Fetal distress.

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Introduction

A global rise in cesarean section (CS) rate is evident in recent years.[1,2] CS has become a frequent practice in recent years while this increase has been seen in developing as well as developed countries. In Australia, the rate of CS is estimated to be > 30% in comparison to around 20% in 1998. USA reported CS rate to be around 31% in comparison to 21% in 90s. In the UK, CS is reported in about 25% of all live births, and a rise of nearly 50% is seen if we compare the figures for 90s. CS rates are reported as 15% from Norway, 17% in Sweden while 38% in Italy.[3] It is well recorded that many studies during the 1960s and 1970s reported annual CS rates of 2 to 11%.[4]

A Lower (uterine) Segment Caesarean Section (LSCS) is the most commonly used type of Caesarean section used today. It involves a transverse cut just above the edge of the bladder and results in less blood loss and is easier to repair than other types of Caesarean sections. Multipara comprises of primipara as well as multipara (para 2 to 4) and grand multipara (>4). A primary cesarean rate of 13% was reported in the US amongst parous women in comparison to 18% in nulliparous.4 It has been observed that some multiparous women are delivered normally, even with faulty presentations.[5] Multipara are reported with cephalopelvic disproportion even after vaginal delivery of a full-term child. It has been well known that the fetus usually gains size in cases of multiparity, it is very important to carefully measure fetus size along with its head. Rao JH et al reported that the frequency of LSCS as 10% in multiparous women with previous vaginal delivery, indications of LSCS were malpresentation 34%, antepartum hemorrhage 20%, and fetal distress 17%.[6]

In the general public, a common belief is found that when a woman delivers a child through normal delivery, following children will also get delivered normally. This is one main reason in developing countries that women of our settings often get

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neglected to routine healthcare. The idea of the current study was adopted to find out the possible indications of CS in those women who were delivered vaginally in all previous instances. No such study has been previously conducted here on our general population. So we decided to perform this study to determine the frequency of lower segment cesarean section (LSCS) along with indications of LSCS in multiparous women with previous normal deliveries. This study was thought to lead us to proper counseling of multiparous women with previous normal deliveries to attend routine antenatal checkups to avoid the risk of LSCS.

Methodology

This was a cross-sectional study conducted at the Department of Obstetrics & Gynecology, Nishtar Hospital, Multan, from 20th July 2018 to 20th January 2019. A sample size of 222 was calculated by taking expected least proportion (malpresentation) as p= 17.44%7, q= 1-p and d= 5% and Confidence level as 95%. A non-probability consecutive sampling technique was used. Pregnant women age 25-35 years, live singleton pregnancy at term with gestational age between 37 to 41weeks by ultrasound and multipara with no previous LSCS were considered for this study. Primigravida, with gestational age <37 weeks by ultrasound, or women with twin pregnancy by ultrasound were excluded. Permission from the ethical committee and research department of the institution was acquired. Informed consent regarding the study and risks from all the studied cases was taken. Name, age, height, and weight of the studied women were noted. The decision to commence LSCS if indicated was taken by a specialist in every case after a complete assessment. All the procedure was done under the supervision of consultant gynecologist having 3 years of post-fellowship experience. The remaining patients underwent induction of labor with 50 µg of misoprostol 4 hourly vaginally. Data was collected for the frequency of LSCS and its indications in the shape of fetal distress, antepartum hemorrhage, and malpresentation. Fetal distress was named as an abnormal fetal heart rate pattern (heart rate > 160 bpm or < 120 bpm) diagnosed by auscultation and continuous electronic fetal monitoring (EFM). Antepartum Hemorrhage was labeled as bleeding from the genital tract occurring before delivery of the baby with blood loss of 50–1000 ml. Blood was measured by applying a clean sanitary pad, weighing the pad before use and following changing of the pad due to blood and clots, the difference was calculated, which was weighed standardizing one milliliter blood to one gram. A *malpresentation* was defined as any presentation other than a vertex presentation (with the top of the head first) by ultrasound. SPSS version 21 was used for data handling and analysis. Effect modifiers like age, parity, height, and BMI were controlled by stratification. Post-stratification chi-square test was done and p-value < 0.05 was taken as statistically significant.

Results

Stratification of primary cesarean section with respect to study variables showed no statistical difference (p>0.05) except for parity where parity status of more than 4 was significantly more associated with primary cesarean section (p=0.001), and BMI (p=0.002). (Table-II)

Stratification of malpresentation with respect to study variables showed no statistical difference (p>0.05) except for parity where parity status of more than 4 was significantly more associated with malpresentation (p=0.001). Stratification of Fetal Distress with respect to study variables showed no statistical difference (p>0.05) except for parity where parity status > 4 was significantly more associated with fetal distress (p= 0.001). Stratification of antepartum hemorrhage with respect to study variables showed no statistical difference (p>0.05) except for parity status > 4 which was significantly more associated with antepartum hemorrhage (p=0.001) and BMI > 25 (p=0.049).

Table-I: Indications for Primary Cesarean Section among multiparous women with previous normal deliveries. (n=43)

Indication	No. (%)
Malpresentation	12 (27.9%)
Fetal Distress	18 (41.9%)
Antepartum Hemorrhage	13 (30.2%)
Total	43 (100%)

Table-II: Primary cesarean section, Malpresentations, Fetal distress vs variables.

Study Variables	Primary Cesarean Section		P-Value
	Yes (n=43)	No (n=179)	
Age (years)			
25-30	3(7.5%)	18(10.1%)	0.536
31-35	40(92.5%)	161(89.9%)	
Parity			
2-4	22(51.2%)	176(98.3%)	0.001
>4	21(48.8%)	3(1.7%)	
Height (meters)			
<1.5	12(27.9%)	28(15.6%)	0.060
=1.5	31(72.1%)	151(84.4%)	
BMI (Kg/m^2)			
=25	12(27.9%)	98(54.7%)	0.002
>25	31(72.1%)	81(45.3%)	
Study Variables	**Malpresentation**		**P-Value**
	Yes (n=12)	**No (n=210)**	
Age (years)			
25-30	0(0%)	21(10.0%)	0.250
31-35	12(100%)	189(90.0%)	
Parity			
2-4	4(33.3%)	194(92.4%)	0.001
>4	8(66.7%)	16(7.6%)	
Height (meters)			
<1.5	4(33.3%)	194(92.4%)	0.518
=1.5	8(66.7%)	16(7.6%)	
BMI (Kg/m^2)			
=25	4(33.3%)	106(50.1%)	0.248
>25	8(66.7%)	104(49.9%)	
Study Variables	**Fetal distress**		**P-Value**
	Yes (n=18)	**No (n=204)**	
Age (years)			
25-30	2(11.1%)	19(9.3%)	0.803
31-35	16(88.9%)	185(90.7%)	
Parity			
2-4	10(55.6%)	188(92.2%)	0.001
>4	8(44.4%)	16(7.8%)	
Height (meters)			
<1.5	5(27.8%)	35(17.2%)	0.261
=1.5	13(72.2%)	169(82.8%)	
BMI (Kg/m2)			
=25	5(27.8%)	105(51.5%)	0.054
>25	13(72.2%)	99(48.5%)	
Study Variables	**Antepartum hemorrhage**		**P-Value**
	Yes (n=13)	**No (n=209)**	
Age (years)			
25-30	1(7.7%)	20(9.6%)	0.822
31-35	12(92.3%)	189(90.4%)	
Parity			
2-4	8(61.5%)	190(90.9%)	0.001
>4	5(38.5%)	19(9.1%)	
Height (meters)			
<1.5	4(30.8%)	36(17.2%)	0.218
=1.5	9(69.2%)	173(82.8%)	
BMI (Kg/m^2)			
=25	3(23.1%)	107(51.2%)	0.049
>25	10(76.9%)	102(48.8%)	

The age range in this study was from 25 to 35 years with a mean age was 32±1.9 years, mean height of 1.55±0.11 meters, and mean BMI was 27.8±3.1 Kg/m2. Majority of the patients, 201 (90.5%) were from 31-35 years, 198 (89.2%) had parity status from 2 to 4, 182 (82.0%) had height ≥ 1.5 meters and 112 (50.4%) with BMI >25. The primary cesarean section was seen in 43 patients (19.4%). In these 43 women, indications for primary cesarean section were malpresentation in 12 (27.9%), fetal distress in 19 (41.9%), and antepartum hemorrhage in 13 (30.2%). (Table-I)

Discussion

"The dangerous multipara" by, Dr. Bethel Solomons[8] stated that the primigravida gives the signals of tricky labor as more notice is given in these cases in comparison to those who have undergone labor previously. The dangerous multipara in 1934 was given huge importance in terms of identification related to grand multiparity.[8]

Factors like poverty, lack of awareness as well as illiteracy have all been linked to multiparity.[7] CS is not the panacea for all obstetric problems, but it is an excellent solution when applied judiciously. The incidence of primary CS in multipara in the present study was 19.4%. Compared to other studies conducted by Desai et al, whose incidence was 29.05%, and Hemabindu et al whose incidence was on the higher side that is 40%, our incidence was appreciably lower.[7,10] The higher incidence in the other studies might have been due to negligence on the part of the patients towards antenatal care, which is reflected in the fact that the hospitals were referral tertiary center for high-risk cases. We noted the maximum number of women undergoing primary cesarean section amongst multigravida was in the age group of 31-35 years, which is comparable to Eastman et al study where the majority of the patients (40%) belonged to 32-35 years of age.[11]

In the Parrish series, the maximum number of patients was in the age group of > 40 years.[12] This may be due to older childbearing women and delay in childbirth in the USA. Most patients belong to 2-4 parity (89.2%) patients which is comparable with the study conducted by Desai et al.[7] There were different indications for CS in these patients. Malpresentation 27.9%, fetal distress 41.9%, and antepartum hemorrhage 30.2%. Similarly in the study by Desai et al, fetal distress (26%) and antepartum hemorrhage (22%) turned out to be the most common indications

for cesarean sections.[7] Both the studies were therefore comparable. Fetal distress is a common indication for lower segment cesarean section in multipara. We noted a slightly increased incidence of fetal distress in the current work in comparison to some previous studies.[7,11] This can be attributed to the frequent use of fetal monitoring (cardiotocography) as an important feature of labor and delivery care in recent years as compared to previous decades.[11,12] Malpresentations are more common in a grand multipara and are favored by a pendulous abdomen and lordosis of the lumbar spine. A study states that multipara during early labor accompanied with the fetal head not engaged warrants similar vigilant investigation for cephalopelvic disproportion that a primigravida is considered to get.[13]

Multiparous women with previous histories of vaginal deliveries need to be considered as an optimistic case but not a diagnostic criterion for spontaneous delivery of the fetus. Reluctance to diagnose this cephalopelvic disproportion leads to longer labor, with the development of excessive molding and caput formation which makes the observer believe that progress has been made.[12]

Conclusion

The frequency of Lower Segment Cesarean Section was found to be in one-fifth of multiparous women with previous normal deliveries. Fetal distress turned out to be the commonest indication for primary cesarean followed by antepartum hemorrhage and malpresentation. Fetal distress turned out to be the commonest indication for primary cesarean followed by antepartum hemorrhage and malpresentation. Good obstetric practice involving antenatal and intrapartum care can reduce the rate of cesarean sections in the multigravida.

Authors Contribution: NM: Design of Work, Acquisition, Analysis of data and drafting. **SJ:** Conception of work and Revising of paper. **A:** Acquisition & analysis of data and revising of paper. NN: Interpretation of data, revising of paper.

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References

1. Tadevosyan M, Ghazaryan A, Harutyunyan A, Petrosyan V, Atherly A, Hekimian K. Factors contributing to rapidly increasing rates of cesarean section in Armenia: a partially mixed concurrent quantitative-qualitative equal status study. BMC Pregnancy and Childbirth 2019;19:2.
2. Betrán AP, Temmerman M, Kingdon C, Mohiddin A, Opiyo N, Torloni MR, et al. Interventions to reduce unnecessary cesarean sections in healthy women and babies. Lancet. 2018;392(10155):1358-68.
3. Zeitlin J, Szamotulska K, Drewniak N, Mohangoo A, Chalmers J, Sakkeus L, et al. Preterm birth time trends in Europe: a study of 19 countries. BJOG. 2013;120(11):1356–65.
4. Ford J, Grewal J, Mikolajczyk R, Meikle S, Zhang J. Primary cesarean among parous women in the United States,1990-2003. Obstet Gynecol. 2008 Dec;112(6):1235-41.
5. Carbonne B. Increase in cesarean delivery: are we facing a pandemic? International Journal of Gynecology and Obstetrics 2009;107(3):183-4.
6. Rao JH, Rampure N. Study of primary cesarean section in multiparous women. J Evolution Med Dent Sci. 2013;2(24);4414-18.
7. Desai E, Leuva H, Leuva B, Kanani M. A study of primary cesarean section in multipara. Int J Reprod Contracept Obstet Gynecol. 2013;2:320-4.
8. Solomon B. The dangerous multipara. Lancet. 1932;2:8-11.
9. Bugg GJ, Atwal GS, Maresh M. Grandmultiparae in a modern setting. Br J Obstet Gynecol. 2002;109:249-53.
10. Himabindu P, Tripura SM, Sireesha KV, Sairam MV. Primary caesarian section in multipara. IOSR J Dent Med Sci. 2015;14(5):22-5.
11. Eastman N. Multiparity and its effect on maternal and perinatal mortality. Obstet Gynecol Surv. 1988;13(5):833-7.
12. Parrish KM, Holt VL, Earterling TR, Connell FA, Logerfero JP. Effect of changes in maternal age, parity, and birth weight distribution on primary cesarean delivery rates. JAMA. 1994;271(3):4437.
13. Samal R, Palai P, Ghose S. Clinical study of primary cesarean section in multiparous women in a tertiary care hospital. Int J Reprod Contracept Obstet Gynecol 2016;5:1506-9.