Incidence of Caesarian Section in Primiparous Patients at Tertiary Care Institute

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Research Article

Abstract: **Introduction:** The reasons for increased incidence of cesarean section in primiparous patients are obvious. Firstly, increased safety of this operation has widened the indications both maternal and fetal. Secondly, in the past, cesarean section used to be a last resort for delivery while now it is a method of choice over any unpredictable and unavoidable traumatic vaginal delivery. Also the increasing advances in assessing fetal maturity and fetal well being have improved the ability to use cesarean section in a more efficient manner. **Aims and Objectives:** To determine the incidence of cesarean section in primiparous patients admitted in tertiary care institute and to study factors associated with it. **Materials and Method:** The present study was conducted at ACPM Medical Hospital, Dhule. All the primiparous women attending the institute for the delivery were enrolled in the study. One thousand consecutive primiparous patients admitted in this institute during the study duration. Out of them 249 undergone cesarean section. Information regarding age, height, ANC registration and other obstetrics findings were noted in those who had undergone cesarean section. Hemoglobin status at the time of admission was also noted. **Results:** Incidence of cesarean section in primiparous women was 24.9%. Most common age group was young between 15 to 25 years. 64.25% women were having height less than 151cm. 67.88% were un booked. 75.9% were anemic, out of them 9.24% were having hemoglobin less than 6gm%. The estimation of gestational age was rough because majority of patients did not know the exact date of last menstrual period as most of the women were illiterate. PIH was diagnosed in 19.67% women followed by h/o previous abortion in 6.02. **Conclusion:** Incidence of cesarean section in primiparous women was 24.9%. Height less than 151cm, anemia and un booked ANC were the factors associated with these cases. PIH, previous abortion, Rh negative status of mother and long standing infertility were the common conditions associated with the primiparous women who undergone cesarean section

Introduction

Cesarean section–an operation mainly evolved to save a maternal life during difficult child birth has now become increasingly the procedure of choice in high risk situations to prevent perinatal morbidity and mortality. This has become possible because of sophisticated patient care depending on effective antimicrobials, blood transfusion services, and superior monitoring systems rendering safer anesthesia, improved surgical techniques and reliable neonatal care backup services. Norman Thornton[1] from university of Virginia states-'Obstetricians today are much more interested in the quality of the product they deliver than the cesarean section rate'. Creighton *et al*[2] (1991) observed that cesarean section rate continues to rise and has almost doubled from 5.2% in 1970 to 10.1% in 1984.According to Hendricks, [3]

1. Cesarean section is a less threat for the mother than before, with better anesthesia, availability of blood transfusion and antibiotics.
2. There is increased awareness that prolonged labor, difficult delivery and mal presentations, including breech, are potentially traumatic situations which can be largely obviated by the use of cesarean sections.
3. There is increased ability by the pediatricians to salvage small babies and the recognition that delivery by section offers such babies the optimal chance for survivorship at a high potential.

Edward Quilligan[4] from University of Southern California expresses it well when he says, "An alert obstetrician who is looking for complications, but hopefully not causing them, can use present-day obstetric techniques to help assure for the fetus a significantly safer journey through the an tepartum and in trapartum periods –he can prevent that fetus from going from stress to distress". The reasons for increased incidence of cesarean section in primiparous patients are obvious. Firstly, increased safety of this operation has widened the indications both maternal and fetal. Secondly, in the past, cesarean section used to be a last resort for delivery while now it is a method of choice over any unpredictable and unavoidable traumatic vaginal delivery. Also the increasing advances in assessing fetal maturity and fetal well being have improved the ability to use cesarean section in a more efficient manner. Thus the present study was carried out to measure the incidence of cesarean section in primiparous women coming for delivery at tertiary care center.

Aims and Objectives

- To determine the incidence of cesarean section in primiparous patients admitted in tertiary care institute.
- To study factors associated with it.

Materials and Methods

Study Design

The present study was conducted at ACPM Medical College, Dhule. All the primiparous women attending the institute for the delivery were enrolled in the study.

Study Duration

April 2013 to March 2014.

Methodology

All the primiparous women coming to the institute for delivery were observed for mode of delivery. Information regarding age, height, ANC registration and other obstetrics findings were noted in those who had undergone cesarean section. Hemoglobin status at the time of admission was also noted. It was observed that during the study duration total one thousand primiparous women had attended the institute for delivery. Out of these, 249 women had undergone cesarean section. These cases include registered as well as referred cases. An emergency as well as an elective cesarean sections were included in this series. Hemoglobin status of all the women coming for delivery was calculated at the time of admission. The estimation of gestational age was also done. But it was not possible to calculate correct gestational age in all women because some of patients did not know the exact date of last menstrual period. So the estimation of gestational age was rough in few cases.

Results

In the present study it was observed that out of total one thousand primiparous women 249 undergone cesarean section. Thus the incidence of cesarean section in primiparous patients admitted in this tertiary care institute was 24.9%.

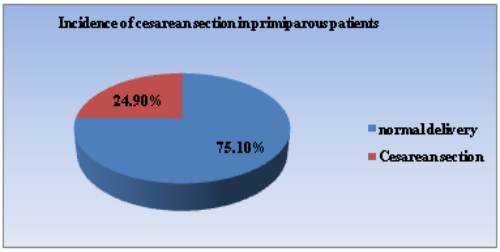


Figure 1: Incidence of cesarean section in primiparous patients

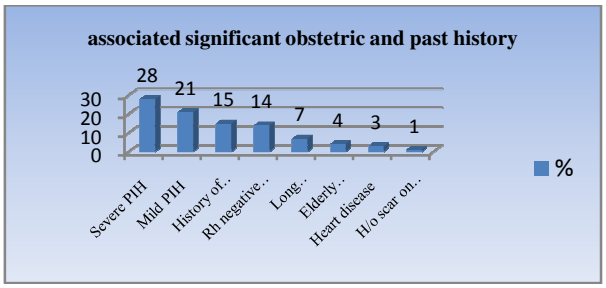
Table 1: Distribution of primiparous women underwent cesarean section according to various factors

Variable		No. of cases (n=249)	Percentage (%)
Age in years	15-20	111	44.57
	21-25	117	46.98
	26-30	17	6.85
	Above 30	4	1.60
Height in cms	Less than 151	160	64.25
	151 and above	89	35.75
ANC registration status	Booked	80	32.12
	Un booked -	169	67.88
	(a) Referred	120	48.19
	(b) Nonreferred	49	19.69
Hemoglobin	> 10 gm%	60	24.10
	8-10 gm%	116	46.59
	6-8 gm%	50	20.08
	< 6 gm%	23	9.24
Gestational age	Less or equal to 36 weeks	30	12.04
	More than 36 weeks	209	87.96

Above table shows that majority i.e. 91.55% of patients were between 15 to 25 years. 4 were elderly primiparous patients. It was observed that majority i.e. 64.25% of the patients were less than the standard Indian height (The average height of Indian Women is 151.7 cms i.e. 4 feet 11.72 inches., ICMR Hyderabad 1971). It was seen that 169 (67.88%) of cases were un booked i.e. unregistered during ANC period. Out of these 120 were referred from other hospitals where as 49 come directly to the medical college for delivery. Hemoglobin status of all the women coming for delivery was done. It was observed that 75.9% primiparous women who undergone caesarean section were anemic. Out of that 29.32% were severely anemic. While gestational age at the time of cesarean section, it was observed that majority of the women had completed 36 weeks of gestation. The estimation of gestational age was rough because majority of patients did not know the exact date of last menstrual period.

Table 2: Distribution of women according to associated significant obstetric and past history

Associated factors		No. of cases	Percentage
PIH	Severe	28	11.24
	Mild	21	8.43
History of previous abortions		15	6.02
Rh negative mother		14	5.62
Long standing infertility		7	2.81
Elderly primigravida		4	1.60
Heart disease		3	1.20
H/o scar on uterus		1	0.4
Total		**93**	**37.32**



Out of 249 cases 93 women (37.32%) were having significant obstetric or past history. Majority of patients were having mild to severe PIH i.e. 49 cases. 7 were having long standing infertility. 15 patients were having history of previous abortions. Rh negative patients were 14. There were 4 elderly primiparous patients, one patient had previous hysterotomy scar on the uterus, and 3 patients were of heart disease. Thus PIH contributed a major factor for cesarean in primi.

Discussion

Primiparous patients are a group at a higher risk. Their capacity for childbearing has never previously been put to test. They cannot therefore be relied upon to run 'true to form'. The present study was carried out on 249 primiparous patients who had undergone cesarean section out of 1000 consecutive primiparous patients admitted in this institute during the period of one year (FEB. 2002 to Dec. 2002). The aim was to study the find the incidence of cesarean section in primiparous women attending the institute for delivery and also to see various factors associated with it. The incidence of cesarean section in the present study was 24.9%. The incidence of cesarean section in primiparous patients has increased from 4 percent in 1970[5] to 9.62 percent in 1976[6] and 24.9 percent in present series. Anuradha Kumar[7] in 1993 has observed 14.8% incidence and Klein M[8] (1998) observed 17% incidence of caesarean section in primiparous women. The reasons for increased incidence of cesarean section in primiparous patients are obvious. Firstly, increased safety of this operation has widened the indications both maternal and fetal. Secondly, in the past, cesarean section used to be a last resort for delivery while now it is a method of choice over any unpredictable and unavoidable traumatic vaginal delivery. Also the increasing advances in assessing fetal maturity and fetal well being have improved the ability to use cesarean section in a more efficient manner. In the present study, the age incidence ranged from 15 to 34 years. The youngest patient was of 15 years. There were 4 elderly primiparous patients having age above 30 years. It was also seen that 91.55 percent of cases were between 15 to 25 years. This can be explained on the basis of early marriages in our country and consequently early child-bearing. Most of the women in the present study undergoing cesarean section had height less than 151 cms i.e. 64.25 percent cases. Ian Mac Gillivary[9] (1966) in Aberdeen city demonstrated that, in primiparous patients as height increases the cesarean section rate decreases. These findings correlate with our study. Majority of the cases were unbooked, i.e. 67.88 percent. These cases were either referred through medical personal (Primary Health Centre or private clinics) or non-referred approaching the hospital on their own after difficult attempts at home delivery. Most of the unbooked cases came from rural areas, with a poor socio-economic status and illiteracy. Since the study was carried out in a tertiary referral centre in rural India, many cesarean sections had to be done in emergency on unbooked referred patients who were too often rushed to hospital in bad shape. In our series of 249 cases, duration of gestation was estimated roughly because majority of patients were unbooked coming from rural area and illiterate. Therefore they did not know the exact date of last menstrual period. 30 (12.04%) patients were equal or less than 36 weeks of gestation at the time of cesarean section. 209 patients i.e. 87.96 percent were more than 36 weeks of pregnancy. Thus we had to rely more on clinical judgment so as not to extract a premature by scarring the uterus. Out of 249 patients, 93 (37.32%) patients were having significant obstetric and past history which required judicious attention in their management. 49 (19.67%) patients had PIH, mild to severe variety. 7(2.81%) patients were having long standing infertility. Elderly primiparous were 4 (1.60%), 15 (6.02%) patients were included in this study with having previous history of 1 or 2 abortions. 14 (5.62%) patients were Rhesus negative. In these patients cord blood was taken for investigations like-blood grouping, serum bilirubin, direct coomb's test, hemoglobin, etc. They were treated accordingly. 1 (0.40%) patient was having previous history of hysterotomy. She was taken for cesarean section because of doubtful scar on the uterus. 3 (1.20%) cases were of heart disease. Thus, PIH constitutes a major group of medical disorders, requiring cesarean section in the present study. According to Tuck[10] *et al* (1988), there is fivefold risk of having a cesarean section in patients with long standing infertility.

Conclusion

Thus in the end we conclude that incidence of cesarean section in primiparoos women was 24.9%. Most of the primiparous women were belonging to young age group with height less than 151cm. Anemia was also common finding in this group. PIH, previous abortion, Rh negative status of mother and long standing infertility were the common conditions associated with the primiparous women who undergone cesarean section in the present study.

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References

1. American College of Obstetricians and Gynaecologists: Task force on cesarean delivery rates; Evaluation of cesarean delivery, Jun. 2000.
2. Creighton S M. Pearce JM, Stanton S.L., Complication of cesarean section Studd J, Progress in Obstetrics and Gynaecology Vol. 9 163, 1991.
3. Ian Donald: Practical obstetric problems-5th edition, 1985.
4. Quilligan EG: Doctor to Doctor; How to identify the high risk fetus, Perinatal medicine, Medcom Inc. Pg. 24.
5. O 'Driscol: J. Obst. Gynaec. Brit. Cwlth. 77: 385, 1970.
6. Palanichamy : Study of 900 cesarean section with special reference to multipara. J. Obst Gynaec. Ind. 26: 374, 1976.
7. Anuradha Kumar, Maternal complication in cesarean section deliveries – Journal of Obstetrics and Gynaecology India 1995.
8. Klein M, Waldhor T, Vutuc C, Beck: A frequency of cesarean section in Austria Gynakol Geburtshilfliche Rundsch, 2000, 40 (3-4): 125-9.
9. Mac Gillivray Ian: Trends in incidence of cesarean section in a community, J. Obst. Gynec. Brit. Cwlth., 75 : 1301, 1968.
10. Tuck.S.M.,Yudkin P.L, Turnbell AC pregnancy outcome in elderly primigravida with and without a history of infertility, BJOG 1988 Mar; 95 (3) :230-7