

Comparative Study of Maternal outcome of Pregnancy in Elderly Primi with Younger Primi

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Abstract

Aim: The study was conducted to determine the pregnancy and labour characteristics and new born outcomes in nulliparous women at age 30 and older. *Methodology:* It is a prospective longitudinal study conducted in the department of OBG in Yenepoya Medical College, Mangalore. Primigravidae 30 years and older (study group) in labour were compared with another group of women 25-29 years (control group) in labour. Intrapartum data collected were presentation, onset of labour spontaneous or induced, progress of labour, type of delivery vaginal or caesarean delivery and incidence of meconium staining were recorded. Chi square test was used for comparison of data. $P=0.05$ was considered statistically significant. *Results:* The rate of spontaneous vaginal delivery was 58% and caesarean section was 42% among the study group and among the control were 66% and 28%. Incidence of preterm birth among study group was 24% and in control group was 8%. Factors such as PIH, gestational diabetes, chronic hypertension, third trimester bleeding, caesarean section were higher in the study group. *Conclusion:* The study confirms that pregnancy and delivery at age 30 years and older poses increased risks of antepartum and intrapartum complications.

Keywords: Nulliparous Women; Pregnancy; Caesarean Birth.

Introduction

As the human race walks with time and as the years roll by, so do we acquire changes in our life style. The modern era is witnessing a change in its childbearing patterns. In the developed countries more women have late marriages in pursuit of education and career goals. This has produced an absolute increase in the number of women who are currently nearing the end of their reproductive age [1]. Other factors like better contraceptive techniques, assisted reproduction offering chances of conception after years of infertility- have all contributed to increasing maternal age at first pregnancy.

This change is slowly reflected in the developing countries also. In India, over the last few decades, a changing trend towards pregnancy in women of increasing age has been observed. Hence, in today's world, pregnancy and its outcome in older women is of growing interest.

In July 1958, the council of International federation of obstetrics and Gynaecology (FIGO) recommended that maternal age of 35 years should be accepted as the International standard for elderly primigravida [2]. In India, a primigravida at or above 30 years is considered elderly for obstetric performance.

The woman who conceives towards the end of her reproductive age presents with peculiar characteristics like hypertension, diabetes, cardiovascular, renal disease and other chronic medical conditions. Abnormal presentations, chromosomal anomalies, congenital defects, and prematurity are considered to be more prevalent. Increased rates of caesarean births, maternal and perinatal mortality have been observed.

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Generally the pregnancy outcomes in women 30 years and above is considered less favourable than younger women. So in the study , pregnancy and delivery characteristics in nulliparous women 25 - 29 years of age and the risk associated with different factors in nulliparous women at or above 30 years has been estimated.

Objectives of the Study

1. To determine the pregnancy and delivery characteristics in primigravida above 30 years.
2. To determine the pregnancy and delivery characteristics in primigravida aged 25 to 29 years
3. To compare the pregnancy and delivery characteristics in both groups.

Materials and Methods

This was a study of singleton births conducted at Yeneopya Medical College, Mangalore from 1st February 2015 to 28th February 2017. Primigravidae 30 years and older (study group) in labour were compared with another group of women 25-29 years (control group) in labour.

Risk parameters included were pregnancy complications like

1. Pregnancy induced hypertension.
2. Gestational diabetes.
3. Premaure rupture of membranes
4. Preterm labour
5. IUGR
6. Third trimester bleeding – placenta praevia and abruptioplacentae.
7. Chronic medical conditions- hypertension, asthma, cardiac and renal disease.
8. Leiomyoma was recorded if a previous surgery for leiomyoma was done prior to conception or a leiomyoma during present pregnancy was diagnosed.
9. Preterm labour was recorded if labour began before 37 completed weeks and directly resulted in delivery – excluding inductions and successful tocolysis.
10. History of treatment for infertility

Data regarding fetal presentation,

onset of labour i.e spontaneous or induced, augmentation of labour, progress of labour, type of delivery- vaginal or caesarean delivery and incidence of meconium staining, caesarean delivery- whether elective or emergency, cases with post partum haemorrhage were also noted.

Data was entered into a data base, d base 3 plus, checked for enrty and then analysed with a statistics package, SPSS/PC. Logistic regression was used for multivariate comparisons with the forward stepwise method. P=0.05 was considered statistically significant. Odds ratio (ORS) with 95% confidence intervals (CI), used to measure strengths of associations, were computed from logistic in are multivariate analyses.

Results

The study was conducted at Yeneopya Medical College, Mangalore . 100 consecutive cases of younger age primis (control group) and 100 consecutive cases of elderly (study group) were included in the study .

The age group of the patients percentage wise (graph1 and graph 2). The oldest woman was 41 years old. Mean age of the study group was 31.29 year and that of the control group was 26.44years.

Evaluation of the reasons for advanced age at delivery the study group, showed that majority of women had late marriage (23%) and involuntary infertility (21%). The difference in the rates of involuntary infertility among study group (21%) and control group (8%) are statistically significant.

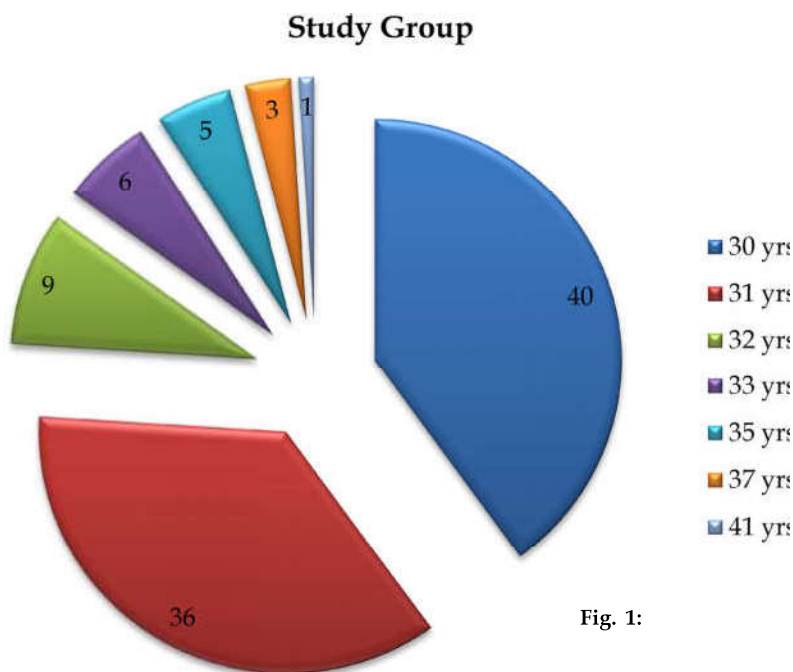


Fig. 1:

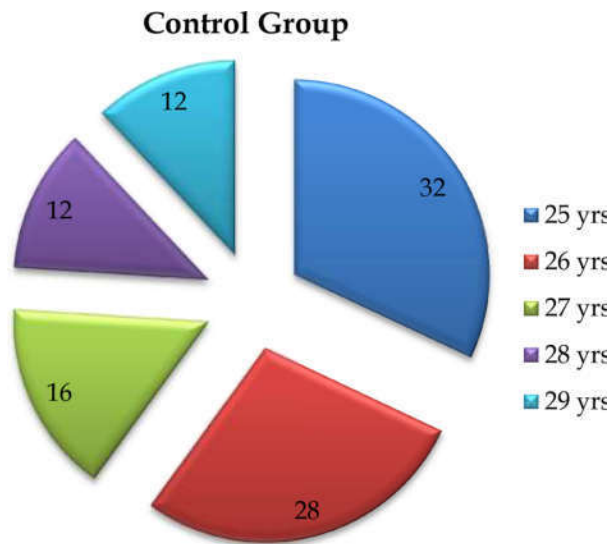


Fig. 2:

On studying the pregnancy characteristic's of the study group had significantly higher rates of PIH than control group (Table 1).

Evaluation of labour showed that elderly women were more likely to have elective caesarean section when compared to younger women. When the delivery was considered, caesarean section was seen more in study group than in control group which was statistically significant. Comparing the mode of vaginal delivery among study group and controls, control group had more spontaneous labour (Table 2).

Detailed study of the vaginal deliveries did show a difference in the rates of induction of labour but did not show any difference in operative vaginal delivery or duration of labour between the study group and controls (Table 3).

Detailed study of the caesarean section showed no difference in the rate of elective and emergency caesarean section among both groups (Table 4).

Table 1: Pregnancy characteristics in Study group and controls

Sl. No	Pregnancy characteristics	Study group		Controls		P values
		No of patients	%	No of patients	%	
1	Pregnancy induced hypertension (PIH)	21	21%	8	8%	.018
2	Leiomyoma	3	3%	1	1%	0.614
3	Gestational diabetetes	4	4%	2	2%	0.678
4	Preterm labour	8	8%	3	3%	0.215
5	PROM	12	12%	5	5%	0.128
6	IUGR	6	6%	4	4%	0.745
7	Third trimester bleeding	2	2%	-	-	-
	Post partum hemorrhage	5	5%	1	1%	0.1058

Table 2: Comparison of labour among Study group and control group

Sl. No		Study Group		Controls		p' values
		No. of patients	%	No. of patients	%	
Type of Labour						
1	Spontaneous onset	41	41%	62	62%	0.0047
2	Induced	51	51%	24	24%	0.0015
3	Elective caesarean Section	8	8%	3	3%	0.215
Type of Delivery						
1	Vaginal Delivery	58	58%	72	72%	0.038
2	Caesarean Section	42	42%	28	28%	
Mode of vaginal Delivery						
1	Spontaneous	39	39%	66	66%	
2	instrumental	19	19%	14	14%	0.115

Table 3: Detailed Description of vaginal Deliveries

Sl. No	Mode of vaginal Delivery	Study group		Controls		p' values
		No. of patients	%	No. of patients	%	
1	No. of vaginal deliveries	58	58%	72	72%	0.054
Onset of labour						
2	Spontaneous	41	41%	62	62%	0.0047
	Induced	51	51%	24	24%	0.0015
3	Augmentation	10	10%	6	6%	0.4343
Mode of vaginal delivery						
4	Spontaneous	39	39%	50	50%	0.155
	Vaccum	11	11%	8	8%	0.629
	Forceps	8	8%	6	6%	0.782
5	Meconium	8	-	5	-	0.566

Table 4: Detailed Description of Casearean sections

Details of vaginal deliveries	Study group		Controls		p' values
	No. of Patients	%	No. of Patients	%	
Total numbers of Caesarean sections	42	42%	28	28%	
Elective Indications	8	8%	3	3%	.215
Failure to progress	5		1		
Breech	-		1		
Transverse lie	-		1		
Placenta Previa	1		-		
Precious pregnancy (Prolonged Infertility)	1		-		
Emergency caesarean	34	34%	25	25%	
Spontaneous	30	30%	24	24%	.426
Induced	4	4%	1	1%	.365
Augmented	8	8%	2	2%	.105
Indications for Emergency caesarean					
Failure to progress	23		15		
Non reassuring fetal heart rate	8		5		
Breech	2				
Face	-		2		
Transverse lie	-		2		
Placenta Praevia	1		-		
Abruptio	1		1		
IUGR	1		-		
Mecoinium	4		3		

Discussion

The pregnancy complications and adverse outcome are higher in the elderly nullipara. This study assessed many different potential complications in study group compared to a control group.

The present study revealed that factors like pregnancy induced hypertension, chronic hypertension, operative delivery, preterm births and post partum haemorrhage were higher in the study group.

The study also revealed the incidence of primigravida > 30 years in our hospital to be 4.4%. The result obtained from the study is comparable with the reports of Diddly et al 6.3% (3) and Grimes and Gross the prevalence. of 3.6% (4).

Majority of the study group (40%) were 30 years at delivery and the oldest patient (1%) was 41 year old.

On evaluation of reasons for advanced age at delivery showed that late marriage 23% and involuntary infertility 21%. Late marriage was followed by infertility in later life in 5 patients. Late marriage in our society may be due to various social, economic or other unidentified reasons. The present study is comparable to that of other studies done by Bianco et al 20.3% (5), and Piepert and Bracken 29.7%(6).

Most of the pregnancy characteristics were studied. In the present study it was found that the incidence of PIH is 21% in study group compared to 8% of

control group which was statistically significant. This is comparable with the reports of Barton et al 20.6% [7] The incidence of PIH was higher. This may be explained by the fact that PIH cases were referred from peripheral hospital.

The incidence of gestational diabetes is 4% in the study group compared to 2% in control group. This difference was not statistically significant, which is comparable by reported by kirz et al [8] and Edge and Laros [9].

Incidence of preterm birth among study group was 8% and in control group was 3% which was comparable to study by mukharjee and chowdhury 7.6% and 2.6% [10].

The rate of spontaneous vaginal delivery was 58% and caesarean section was 42% among the study group and 72% and 28% in control group which was comparable to study by mukharjee and chowdhury [10] and Bianco et al [5] The caesarean section rate was found to be higher in the study group (72%) when compared to the control group 25% [11]

Incidence of IUGR in study group was 6% and 4% in control group, which has no statistical significance.

Incidence of postpartum haemorrhage among cases was 5% and control was 1% were as Edge and Laros [9] found 3.5% in both the groups. Among the 5 cases in our study group 3 patient had PIH, 1 patient had chronic hypertension and 1 patient had abortion. In the control group 1 patient had central placenta previa.

Preconceptional counselling is essential and also early prenatal care is essential in all women above 30

years. Women should realistically appraise the risk of pregnancy in later life but should not fear delaying child birth. Pregnancy at or above 30 years is increasingly common and improved obstetrical care has made the 'maturegravida' compatible with successful pregnancy for the majority of these women.

Conclusion

This study confirms that pregnancy and delivery at age 30 years and above poses increased risks of antepartum and intrapartum complications. The risk of caesarean section is increased due to higher incidence of PIH, Preterm labour, PROM and Antepartum Haemorrhage. Various factors may force women to delay child bearing to an advanced age, which increases the risk of poor pregnancy.

Hence, these women should be encouraged for early, regular antenatal checkup and also advised to deliver in a well equipped hospital, with competent obstetrician, neonatologists and anaesthesiologist.

References

1. Adams M.M., Oakley G.P., Marks J.S. Maternal Age and Births in the 1980s. *JAMA* 1982;247:493-94.
2. Higdon A.L. : Pregnancy in the Women After Forty. *Am. J. Obstet. Gynecol.* 1960;80:38.
3. Dildy G.A., Jackson G.M., Fowers G.K., Oshiro B.T., Varner M.W., Clark S.L: Very Advanced Maternal Age: Pregnancy After Age 45. *AM. J. Obstet. Gynecol* 1996;175:668-674.
4. Grimes D.A. and Gross G.K : Pregnancy outcomes in Black Women Aged 35 and Older. *Obstet. Gynecol.* 1981;58:614-20.
5. Bianco A, Stone J, Lynch L, Lapinski R, Berkowitz G, Berkowitz R.L. : Pregnancy outcome at Age 40 and Older. *Obstet. Gynecol.* 1996;87:917-922.
6. Peipert J.F. and Bracken M.B.: Maternal Age : An Independent Risk Factor for Caesarean Delivery. *Obste. Gynecol.* 1993;81:200-205
7. Barton J.R., Bergauer N.K., Jacques D.L., Coleman S.K., Stanziano G.J., Sibai B.M., Dose Advanced Maternal Age Affect Pregnancy Outcome in Women with Mild Hypertension Remote from Term ? *Am. J. Obstet. Gynecol.* 1997;176:1236-43.
8. Kirz D.S., Dorchester W, Freeman R.K. : Advanced maternal Age: The Mature Gravida. *Am. J. Obstet. Gynecol* 1985;152:7-12.
9. Edge V.L. and Laros R.K. : Pregnancy Outcome in Nulliparous Women Aged 35 or Older. *Am.J. Obstet. Gynecol.* 1993;168:1881-1885.
10. Mukherjee J, Chowdhury J.R. : The Elderly Nullipara-Outcome. *The Journal of Obstetrics and Gynaecology of India* 1998;48:55-57.
11. Sajeethakumari R et al. *Int J Reprod Contracept Obstet Gynecol.* 2016 Sept;5(9):2921-2928.
12. Kane S.H. : Advancing Age and the Primigravidae. *Obstetrics and Gynaecology* 1967;29:409-414.
13. Berkowitz G.S., Skovron M.L., Lapinski R.H., Berkowitz R.L. : Delayed Childbearing and the Outcome of Pregnancy. *N. Engl. J. Med.* 1990;322:659-64.