

Elderly Versus Young Primi Gravida: A Clinical Analysis of Pregnancy Outcome in a Tertiary Care Hospital in Kashmir

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ABSTRACT

Background: In obstetric practice, maternal age is an important determinant of outcome of pregnancy. One such risk factor is an elderly pregnancy that leads to many complications during pregnancy, labor and also for the baby. This study was designed to assess pregnancy outcome in elderly primi gravida compared to her younger counterpart, in a tertiary hospital in Srinagar, Kashmir.

Method: This hospital based prospective comparative study was conducted over a period of One year from February 2016 to February 2017.

Results: This study showed increased maternal complications like anemia in 35.7% gestational hypertension in 28.5%, gestational diabetes mellitus in 5.7%, antepartum haemorrhage in 5.7%, preterm vaginal delivery 15.7%. Cesarean section rate 70%, induction of labour in 22.8% and normal delivery in 22.8%.

Conclusion: Elderly primi gravidae are at high risk of several complications including anemia, instrumental delivery, increasing cesarean section rate, induction of labour, pregnancy induced hypertension. It was concluded that among maternal pregnancy outcome anemia, hypertensive disorder of pregnancy were found significantly more in elderly primi, fetal

pregnancy outcome such as preterm labour were found more significantly more in elderly primigravida. Likewise spontaneous, vaginal deliveries were significantly less in elderly primi gravida. Apgar score <7 at 5 min, NICU admission, perinatal mortality was significantly higher in newborns of elderly primi gravida.

Keywords: Elderly Primi Gravida, Pregnancy Outcome, Maternal Complications.

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INTRODUCTION

Pregnancy and child birth are normal physiological processes and outcomes of most pregnancies are good. But pregnancy in women with advanced age is considered high risk.¹ Pregnancy in women of advanced maternal age, can evoke a broad range of feelings, which can vary from happiness to anxiety.² The term "elderly primi gravida", has been traditionally used to define a primigravida who is 35 years of age or older at the first delivery.³ Elderly women are at high risk of several complications including pregnancy induced hypertension, diabetes mellitus, instrumental deliveries, mal-presentations, prolonged labour, increased caesarean section, induction of labour, antepartum and postpartum haemorrhage.⁴ The elderly primi gravida is generally believed to have decreased fertility and increased risk for adverse pregnancy outcome.⁵ This study was conducted to assess pregnancy outcomes in elderly and younger primi gravidae.

MATERIALS AND METHODS

This hospital based prospective comparative study was conducted in the Postgraduate Department of Obstetrics and Gynaecology, SKIMS, Srinagar, over a period of one year from February 2016 to February 2017.

Informed consent from each patient was taken. A total of 140 patients reporting to OPD or emergency and admitted either in the labour room or in the wards were enrolled in the study and were divided in two groups:

Group A (Study group) included primi gravida women aged 35 years or more at the time of delivery during this study period. There were 70 women in this group.

Group B (Comparative group) included younger primigravida aged between 20 to 34 years during their delivery after being included in the study. There were also 70 patients in this group.

INCLUSION CRITERIA (for both groups)

- Primi gravida
- Deliveries after 20 weeks of gestational age

EXCLUSION CRITERIA (for both groups)

- Multi gravida
- Deliveries before 20 completed weeks of gestation and of babies weighing <500 grams

At the time of admission detailed history was taken. General physical examination was carried out. All investigations of a particular case were done. Each patient was followed for two days postpartum.

RESULTS

In the study group (Table 1) maximum number of patients 50 (71.4%) were seen in the age group of 35-36 years followed by 13 (18.57%) in the age group of 37-38 years. Mean age of women in Group A was 36.22 (± 1.57) years. In the comparative group, maximum number of patients 27 (38.5%) were found in the age group of 26-28 years, followed by 22 (31.4%) and 15 (21.43%) in the age group of 29-31 years and 23-25 years respectively. Mean age in the Group B was 27.45 (± 2.75) years. There was

increased incidence of antenatal complications (Table 2) in the study group A as compared to comparative group B. Anemia was present in 25 (35.7%) of patients in group A and 9 (12.8%) patients in group B. the difference was statistically significant ($P=0.0031$). Hypertension disorder of pregnancy was seen in 20 (28.5%) patients in Group A and 7 (10%) patients in Group B the difference was statistically significant ($p=0.0102$). Gestational diabetes mellitus was seen in 5.7% patients in Group A but 0% in Group B. But the difference in two groups was statistically insignificant ($p=0.1196$). Antepartum haemorrhage was seen in 4 (5.7%) of patients in the Group A as compared to 0% Patients in Group B but the difference was statistically insignificant ($p=0.1196$). Preterm labour was seen in 11 (15.7%) patients in Group A as compared to 3 (4.2%) patients in Group B but the difference was statistically significant ($p=0.045$). Although malpresentation was seen in 9 (12.8%) of patients in Group A as compared to 2 (2.8%) patients in Group B but the difference was statistically insignificant ($p=0.055$). Multiple gestations were seen in 4 (5.7%) patients in Group A as compared to 1 (1.4%) patients in Group B. The difference between two groups was statistically insignificant ($p=0.365$).

Table 1: Age Distribution Of The Group A

Age group (in years)	No. of patients	Percentage
35-36	50	71.4%
37-38	13	18.57%
39-40	5	7.1%
>40	2	2.8%
Mean +SD=36.22±1.57		

Table 2: Age Distribution Of The Group B

Age group (in years)	No. of patients	Percentage
20-22	2	2.85%
23-25	15	21.4%
26-28	27	38.5%
29-31	22	31.4%
32-34	4	5.71%
Mean±SD=27.45±2.75		

Table 3: Antenatal complications in the Study and Comparative Group

Complications	Group A		Group B		P value
	No.	%age	No.	%age	
Anemia	25	35.7%	9	12.8%	0.0031
Hypertensive disorder of pregnancy	20	28.5%	7	10%	0.0102
Antepartum haemorrhage	4	5.7%	0	0%	0.1196
Multiple pregnancy	4	5.7%	1	1.4%	0.3659
Malpresentation	9	12.8%	2	2.8%	0.0552
Preterm labour	11	15.7%	3	4.2%	0,04
Gestational diabetes mellitus	4	5.7%	0	0%	0.1196

Intranatal course of the pregnancy is shown in Table 3, 4, 5. In Study Group A 40 patients who went into labour, labour was spontaneous in onset in 24 (34.2%) patients whereas it was induced in 16 (22.8%). In Comparative Group B- 66 patients who

went into labour, labour was spontaneous in onset in 56 (80%) patients while it was induced in 10 (14.2%). The difference between these two groups was statistically significant ($p=0.0016$). Vaginal deliveries were seen in only 16 (22.8%) patients in study

Group A as compared to 60 (85.7%) in comparative Group B. Caesarean section was performed in 49 (70%) patients in study Group A as compared to 10 (14.2%) patients in comparative Group B. Instrumental deliveries were 5 (7.1%) in group A and 0% in group B.

The difference in the mode of delivery between two groups was statistically significant ($p < 0.0001$). The incidence of emergency caesarean sections was higher in the Group A. In the study Group A 19 (27.1%) caesareans were emergency as compared to 6

(8.5%) caesareans in comparative Group B. The differences between two groups were statistically significant ($p = 0.01797$). The new born with Apgar score < 7 at 5 minutes was 16 (22.8%) in group A as compared to group B 3 (4.2%). The difference was statistically significant ($P = 0.0023$). NICU admission and perinatal mortality was 10(14.2%) and 14(20%) in group A as compared to 2 (2.8%) and 3 (4.2%) in Group B respectively but the difference was statistically significant ($p = 0.0307$ and 0.008). (Table 6)

Table 4: Onset Of Labour In The Study And Comparative Groups

Labour Onset	Group A		Group B		P value-
	No.	%age	No.	%age	
Spontaneous	24	34.2%	56	80%	0.016
Induced	16	22.8%	10	14.2%	

Table 5: Mode Of Delivery In The Study And Comparative Groups

Mode of Delivery	Group A		Group B		P value
	No.	%age	No.	%age	
Vaginal	16	22.8%	60	85.7%	< 0.0001
Caesarean	49	70%	10	14.2%	
Instrumental	5	7.1%	0	0%	

Table 6: Type of Caesarean Sections In The Study And Comparative Group

Caesarean Type	Group A		Group B		P value
	No.	%age	No.	%age	
Elective	30	42.8%	4	5.7%	0.01797
Emergency	19	27.1%	6	8.5%	

Table 7: Foetal And Neonatal Outcome In The Study And Comparative Groups

Outcome	Group A		Group B		P value
	No.	%age	No.	%age	
Apgar score < 7 at 5 minutes	16	22.8%	3	4.2%	0.0023
NICU admissions	10	14.2%	2	2.8%	0.0307
Perinatal mortality	14	20%	3	4.2%	0.0080

DISCUSSION

This was hospital based prospective comparative study conducted in the Postgraduate Department of Obstetrics and Gynecology, SKIMS, Srinagar, over a period of one year. Total 140 cases included in this study, among those 70 women were in study group A whose age was 35 years and above and 70 women in comparative group B whose age was more than 20 years but less than 35 years. This study was conducted to assess pregnancy outcomes in elderly primi gravida.

In our study the mean age of women in advanced maternal age was 36.22 ± 1.57 years which was comparable to study conducted by Ramachandran N et al⁶ where mean age was 37.1 years.

Our study shows that anemia was more 35.5% in study group A as compared to group B 12.8%. The difference was statistically significant. Jolly M et al⁷, also observed an increased incidence of anaemia with increasing maternal age. Hypertension disorders of pregnancy was slightly more in elderly primi gravida compared to young primi gravida (28.5% and 10% respectively), the difference

was statistically significant ($p = 0.0102$) as evidenced by other studies as well done by Naqvi MM et al⁸, Amarin VN et al⁹ reported significantly higher proportion of pregnancy induced hypertension in elderly primi gravida than non-elderly. The antepartum hemorrhage in study was slightly in higher proportion in elderly primi gravida than younger primi gravida (5.7% and 0% respectively), but this variation in proportions was not significant which is consistent with the many other studies like Nagarwal K, et al.¹⁰ The reason could be the better care provided for antenatal complications in tertiary care hospital. Our study shows that multiple pregnancy and mal presentation was slightly in higher proportion in elderly than younger primi gravida (5.7%, 1.4% and 12.8%, 2.8% respectively), but the difference was statistically insignificant. Many authors like Edge VL et al¹¹ and Amarin VN et al⁹ had statistically significant higher proportion of multiple pregnancies and mal presentation in elderly women than non-elderly women. This could be because most of the previous studies were done in study set up where patient load was very high

and duration of study was long. The incidence of preterm labour was 15.7% in elderly primi gravida as compared to 4.2% in young primi gravida but the difference was statistically significant, same was observed by Ojule JD et al¹² where preterm delivery rate was 10.8% in elderly and 5.1% in non-elderly, the difference was statistically significant. In our study the gestational diabetes was 5.7% in elderly primi gravida as compared to 0% in younger counterpart, but the difference was statistically insignificant and the same was concluded by Kessler L et al.¹³

Normal vaginal delivery was present in significantly lower in elderly primi gravida than young primi gravida (22.8% vs. 85.7% respectively) as compared to LSCS and assisted instrumental delivery that were done more in elderly primi gravida and the difference was statistically significant ($p < 0.0001$). Many authors like Naqvi MM et al⁸ and Ustun Y et al¹⁴ also found statistically significant difference in mode of deliveries in elderly and non-elderly women. According to them LSCS was more prevalent mode of delivery in elderly patients as compared to non-elderly patients.

Our study shows that postpartum hemorrhage was slightly in higher proportion in advanced maternal age than younger counterpart (8.5% vs. 2.8% respectively) but this variation in proportion was not found significant. Study by Marzieh I³, concluded that there were no difference in post-partum hemorrhage in elderly primi gravida than younger primi gravida.

Apgar score < 7 at 5 minutes, indicating foetal distress, was observed in 22.8% of newborns in our study group as compared to 4.2% in the comparative group and the difference was statistically significant. Sahu TM et al¹⁵, also found significant differences between the two groups, 13.5% for the study group and 4.5% for the control group. There was significant difference in the NICU (neonatal intensive care unit) admissions of babies between two groups. These were 14.2% in Group A and 2.8% in the Group B. Raveendran S et al¹⁶ also demonstrated an increase incidence of NICU admission of babies in elderly primigravida. There was significantly high perinatal mortality in the Group A i.e. 20% as compared to that in the Group B i.e. 4.2%. Astolfi et al¹⁷ demonstrated an increased incidence of perinatal morbidity in the babies of elderly primi gravida.

CONCLUSION

With women today delaying their pregnancies for a later stage in their lives, for reasons largely due to the evolving socioeconomic scenario, the concept of the high risk elderly primi gravida is very real. This is due to higher risk of complications from conception till delivery and should be provided close supervision for better pregnancy outcome. It can be concluded that if a woman is in this category, she should be cared for in a centre equipped with the proper facilities so that the adverse pregnancy outcomes may be efficiently prevented or tackled in a timely manner to provide optimum results.

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