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Original Research Article

Labour outcomes in advanced maternal age

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ABSTRACT

Background: Advanced maternal age has been traditionally defined as age >35 years at delivery, although some authors have used the age limits 40 and even 44 years.

Regardless of what is the cutoff for advanced maternal age, pregnancies in women aged >35 years are considered at risk of both obstetric complications and interventions.

Methods: Study design: retrospective study. The present study is a type of research article which was conducted in the department of obstetrics and gynaecology, Cama Hospital, Mumbai from October 2021 to January 2022, 50 postnatal mothers with age more than or equal to 35 were selected.

Results: About 50 women participated in this study and most of them belonged between the age group of 30-35 years of age. Most of the women were multipara. Most of them had postpartum hemorrhage as the most common post-delivery complication.

Conclusions: Early ANC registration, regular ANC visits and adequate intrapartum fetal surveillance is essential to prevent adverse maternal and perinatal outcomes in advanced maternal age.

Keywords: Advanced maternal age, Perinatal outcome, Postpartum hemorrhage

INTRODUCTION

Although the influence of advanced maternal age and delayed childbearing on maternal and perinatal outcome has been extensively studied, the definition of what constitutes advanced maternal age in obstetric literature is variable. Advanced maternal age (AMA) has been traditionally defined as age >35 years at delivery, although some authors have used the age limits 40 and even 44 years.¹⁻⁵ Regardless of what is the cutoff for advanced maternal age, pregnancies in women aged >35 years are considered at risk of both obstetric complications and interventions.

Adverse pregnancy outcomes have been linked to maternal age.^{4,6-9} Women younger than age 20 years are

at increased risk for low birth weight, preterm delivery and neonatal death, even after adjusting socioeconomic factors. Women aged 35 years and older have an increased risk of miscarriage, chromosomal abnormalities, congenital anomalies, gestational diabetes, placenta previa, cesarean delivery and hypertensive disorders of pregnancy.⁹⁻¹¹

These risks are important at a population level because 9.2% of births occurred in women younger than 20 years in 2020, and an increasing number of Indian women are delaying childbearing with 14.9% of all births occurring for women of advanced maternal age the same year.¹² For women aged 40-54 years, the cesarean delivery rate increased from 30.2% in 1996 to 49.5% in 2010, and it was twice as high compared with women younger than

20 years.¹² In addition, advanced maternal age has been associated with increased duration of labor, and both prelabor and intrapartum cesarean delivery rates may be higher with advancing age.^{8,13-17} It is well established fact that fecundity decreases and risk for miscarriage increases with age.¹⁸ However, the enormous advances in reproductive medicine have compensated, to some extent, for natural decrease in fecundity, and nowadays even postmenopausal women have become pregnant through oocyte donation.⁸

The influence of advanced maternal age and delayed childbearing on perinatal outcome have previously been studied, but most studies have evaluated outcome in women aged 35 years or older.¹⁸ It has been shown that pregnant women aged 35 years or older experience and increased risk of intrauterine fetal death, pregnancy-induced hypertension, gestational diabetes, and delivery by cesarean.¹⁸

Aim and objectives

The aim of this National population-based study was to investigate the influence of maternal age on perinatal and obstetric outcome in women aged 35 years or older and to explore whether the increased risk of perinatal mortality could be explained by the increased occurrence of intercurrent illness and pregnancy complications among older women.

METHODS

The present study is a type of research article which was conducted in the department of obstetrics and gynecology, Cama hospital, Mumbai from October 2021 to January 2022, 50 postnatal mothers with age more than or equal to 35 were selected.

Selection criteria and study design

All women who were more than or equal to 35 years of age at the time of delivery were included in the current study. The study design adopted was retrospective.

Procedure

The study was carried out after obtaining informed consent to collect data. The patients who gave consent were interviewed and information was collected. History of the patients admitted, fulfilling the selection criteria, followed by investigations, course in hospital, treatment taken was studied in detail.

Statistical analysis

All the data collected from patient was compiled in a Microsoft Excel sheet and was analyzed. Results were displayed in a tabular and graphic format. Appropriate statistical tests were applied wherever necessary.

RESULTS

It was observed that out of the total patients studied, 57.14% belonged to the age group between 30 to 35 years, 38.7% belonged to the age group between 36-40 years of age, whereas 4.08 % belonged between the age range of 41 to 45 years (Table 1).

Table 1: Percentage of patients in each age group.

Age (years)	N	%
30-35	28	57.14
36-40	19	38.7
41-45	2	4.08

Out of the total patients studied in the age group of 30-35 years of age it was found that, 28% had a vaginal delivery, whereas between 36-40 years of age 42.1% had vaginal birth and between 41-45 years of age only 100% females had a vaginal delivery (Table 2).

Table 2: Mode of delivery for different age groups.

Mode of delivery	30-35 years	36-40 years	41-45 years
Vaginal delivery	7	8	2
LSCS	16	9	0
Vacuum assisted vaginal delivery	1	1	
VBAC	1	1	0
Total	25	19	2

Around 64% in the age group of 30-35 years had operative mode of delivery, whereas between 36-40 years the rate of LSCS was found to be lesser, i.e., 47.36%. The vacuum and vaginal birth after cesarean was found to be the same in both 30-35 years and 36-40 years (Table 3).

Table 3: Percentage of mode of deliveries throughout different age groups.

Mode of delivery	30-35 years (%)	36-40 years (%)	41-45 years (%)
Vaginal delivery	28	42.1	100
LSCS	64	47.36	0
Vacuum assisted vaginal delivery	4	5.2	
VBAC	4	5.2	0

On comparing the labor room complications associated with women in the age group of 30-35 years it was found that, 50% women suffered from Post-partum hemorrhage, which is more than that in the age group of 36-40 years, which was 41.66%. The occurrence of ARDS and AKI was found to be more common in women in the age range of 30-35 years. Perinatal asphyxia was found to be equal in incidence in the women of the age group 30-35 years and 36-40 years of age. Perineal tear was frequently

seen in women between 35-40 years and 41-45 years of age and antepartum hemorrhage was equally divided in the age group of 30-35 years and 36-40 years (Table 4-5).

Table 4: Obstetric complications seen in the different age groups.

Complications	30-35 years	36-40 years	41-45 years
PPH	5	5	0
ARDS	1	0	0
AKI	1	0	0
Perinatal asphyxia	2	2	0
PROM	0	3	0
Perineal tear	0	1	1
APH	1	1	0

Table 5: Percentage of obstetric complications associated with each age group.

Complications	30-35 years (%)	36-40 years (%)	41-45 years (%)
PPH	50	41.66	0
ARDS	10	0	0
AKI	10	0	0
Perinatal asphyxia	20	16.66	0
PROM	0	25	0
Perineal tear	0	8.33	100
APH	10	8.33	0

As compared to women in the age group of 30-35 years it was found that more babies of mothers in the age group of 36-40 years went to Intensive care immediately after birth. Whereas the incidence of NICU admission was same as being kept with the mother in the age range of 41-45 years (Table 6).

Table 6: Prognosis of baby in each age group.

Baby prognosis	30-35 years	36-40 years	41-45 years
With Mother	20	9	1
Under NICU care	8	10	1

DISCUSSION

Behavioral factors and irregular ANC visits when associated with advanced maternal age may contribute to an increase in the risk of preterm delivery or small for gestational age infants. Other contributing factors include hypertensive disorders, multiple gestation, and urinary tract infections. Higher rates of obstetric interventions and improved neonatal care in recent year, although successful in reducing stillbirth and neonatal death rates, did not reduce the burden of serious neonatal morbidity. Postpartum hemorrhage also found to have an increased

rate in elderly multiparas. Verma, Sohani showed the incidence of deliveries in women of 35 years or above age was noted to be 7% of all deliveries (2560) during the study period.¹⁹ The women 40 years and above age group constituted 1.4% of total number of deliveries. In the study a high number of women with fetal growth restriction (38.7%), preterm premature rupture of membranes (11%), hypertension (13.3%), diabetes mellitus (8.7%) and other medical disorders leading to a high incidence of operative deliveries (60.7%) and births of preterm <34 weeks gestation (13.3%) and low birth weight babies (22%).

Table 7: Percentage of babies in each age group admitted in intensive care unit post-delivery.

Baby prognosis	30-35 years (%)	36-40 years (%)	41-45 years (%)
With Mother	71.4	47.36	50
Under NICU care	28.5	52.63	50

In the present study, 56% belong to the age group between 30 to 35 years, 38% belong to the age group between 36- 40 years of age, whereas 4 % belong between the age range of 41 to 45 years.

Limitations

Limitations of current study were detailed obstetric history was not taken and social and economic factors were not ruled out.

CONCLUSION

As the risk of perinatal and maternal complications such as postpartum hemorrhage is found to be higher in advanced maternal age, it is essential to monitor such patients from early gestation period. Early ANC registration and regular ANC visits are to be encouraged to prevent low birth weight and prematurity. Intrapartum surveillance of fetus as well as maternal vitals and adequate laboratory investigations to rule out anemia are essential. Post-delivery care is equally important to prevent occurrence of AKI, ARDS, thromboembolism following cesarean section. In this study most common complication found in women in advanced maternal age was found to be postpartum hemorrhage.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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