

Advanced Maternal Age: Facts, Factors And Fetomaternal Outcome



Medical Science

KEYWORDS : Advanced maternal age, maternal and fetal complications, elderly.

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ABSTRACT

Background: With increasing incidence of women being pregnant in older age there is an increased incidence of obstetric complications.

Aim: This study aims at studying the factors affecting and the fetomaternal outcome in women >35 years of age. **Materials and method:** This is a cross sectional study conducted at V.S. General Hospital, Ellisbridge, Ahmedabad from January 1st 2015 to July 31st 2015. **Observation and results:** Advanced maternal age was found to be more common in Muslim multigravida females. Most of them delivered at term with a caesarean rate of 27.8%. Abortions, postpartum haemorrhage, ectopic pregnancy are common complications. **Conclusion:** Even though advanced maternal age is commonly associated with complications, overall outcome was satisfactory. The results obtained were different from the other studies because of the characteristics of the study population and may aid in formation of management guideline.

Introduction

In obstetric practice, maternal age is an important determinant of the outcome of pregnancy and both extremes are known to be associated with adverse maternal and foetal outcomes. Globally, a significant increase in the number of older women bearing children has been observed in recent times. Even though advanced maternal age is an important subject, yet it has not received adequate attention in our country.

Advanced maternal age, defined as 35 years and older on the date of delivery, is becoming increasingly common. Delayed marriages, women's pursuit of higher education, career advancement, use of birth control methods and infertility have contributed to this. In a developing country like India despite early marriages, pregnancy can be seen in elderly due to lack of awareness of family planning, multiparity and desire for male child. This age group is more prone to complications like gestational diabetes, pregnancy induced hypertension, post partum haemorrhage, mal-presentation and adverse neonatal outcome like preterm and low birth weight babies.

Studies conducted previously have had conflicting results. Although these pregnancy complications have been observed over time, information regarding maternal and perinatal outcomes has been inconsistent. This study endeavours to shed light over the facts, factors and fetomaternal outcomes in pregnancy in elderly.

Aims and objectives

- To study prevalence of advanced maternal age.
- To study age and parity distribution.
- To study mode of management and complications to the mother.
- To study foetal outcome.

Materials and methods

Time: This is a cross sectional study conducted at V.S. General Hospital, Ellisbridge, Ahmedabad from January 1st 2015 to July 31st 2015.

Study population: Pregnant women aged 35 and above at the time of delivery attended in the labour ward during this period were included in the study. Patients were informed about the

purpose and procedure of the study and written consent was taken.

Method: Data was collected using questionnaire and check list methods. The data collected included the socio-demographic characteristics of the patients, the mode of delivery, complications and fetomaternal outcome. Data was gathered by medical interns and residents in department of obstetrics and gynaecology from patients' records and by interviewing the patients and physicians who were taking care of the patients during their treatment in the ward. The patients were followed right through their whole stay in the hospital so as to assess the presence and development of complications.

Definition:

1. Advanced maternal age: age 35 years and more at the time of delivery.
2. Preterm delivery: before 37 completed weeks, Term delivery: 37 completed weeks to 42 completed weeks, Post term delivery : >42 weeks.
3. Operative vaginal delivery: use of obstetric forceps or ventouse during vaginal delivery.
4. Low birth weight: <2.5 kg, Macrosomia: 4.5 kg or more

Observations and results

From January 1st 2015 to July 31st 2015, a total of 4705 patients were admitted to labour room of V.S. General Hospital. 4375 patients were terminated after 20 weeks of gestation and 330 before 20 weeks. The number of intrauterine deaths and still births were 138 of 4375 deliveries.

Total 139 patients were more than >35 yrs of age. Prevalence was only 2.95%. There was 1 patient of >40yrs of age. 23 patients were terminated before 20 completed weeks (abortion + ectopic) from 139 patients showing 6.97% prevalence. Following parameters were observed:

Table 1: Demographic Characteristics

No.		35 to 40 years (n=138)		>40 years (n=1)	
		%	No.	%	No.
Caste	Hindu	42	30.43	-	-
	Muslim	96	69.57	1	100
Gravidity	Primigravida	4	2.90	-	-
	Multigravidae	134	97.10	1	100
Booking status	Booked case	89	64.49	1	100
	Unbooked case	49	35.51	-	-
Pregnancy terminated	Before 20 completed weeks (abortion + ectopic)	23	16.67	-	-
	After 20 completed weeks	115	83.33	1	100

Majority of patients were Muslim, multigravidae and booked cases.

Table 2: Labour Profile

	35 to 40 years (n=115)		>40 years (n=1)	
	No.	%	No.	%
Preterm delivery	30	26.08	-	-
Term delivery	70	60.87	1	100
Post term delivery	15	13.05	-	-

Most women delivered at term.

Table 3 Mode of delivery

	35 to 40 years (n=115)		>40 years (n=1)	
	No.	%	No.	%
Normal vaginal delivery	78	67.83	1	100
Operative vaginal delivery	-	-	-	-
Breech vaginal delivery	5	4.35	-	-
Caesarean section	32	27.83	-	-

The rate of caesarean section was 27.83%. The most common indication for Caesarean section was induction failure and most of them were emergency Caesarean section.

Table 4 Complications

Serial no.	Complication	35 to 40 years (n=138)		>40 years (n=1)	
		No.	%	No.	%
1.	Pregnancy induced hypertension	1	0.72	-	-
2.	Diabetes	1	0.72	-	-
3.	Postpartum haemorrhage	4	2.90	-	-
4.	Antipartum haemorrhage	2	1.45	-	-
5.	Ectopic pregnancy	4	2.90	-	-
6.	Abortion	19	13.77	-	-
7.	Others	-	-	-	-

Abortions, PPH and ectopic pregnancy were the most common complications.

Table 5 Neonatal Outcomes

		35 to 40 years (n=115)		>40 years (n=1)	
		No.	%	No.	%
	Live	105	91.30	1	100
	IUD + SB	10	8.70	-	-
Weight	<2.5 kg	35	30.4	-	-
	2.5 to 3 kg	60	52.2	1	100
	3 to 4.5 kg	20	17.4	-	-
	>4.5 kg	-	-	-	-
NICU admission	NICU admission	18	15.66	-	-
	No NICU admission	97	84.34	1	100

Nearly 30% of the births were low birth weight and 8.7 % were still births or IUD. 84.34 % of the foetuses born had an uneventful perinatal period.

Discussion

This study was conducted in V.S. General Hospital to analyse the effects of advanced age in fetomaternal outcome.

In the United States, 14% of births were to women aged 35 and above [Joyce, et al. (2013)], while in our study the rate was only 2.95%. Marriage at a young age, child bearing in early age group, lower socio-economical class and less education are the primary reasons for low prevalence rate. Major portion of the population in this study were Muslims. Multiple pregnancies and infrequent use of family planning methods were common in them. There was higher rate of multiparity in this population.

27.83% pregnancies were terminated by caesarean section compared to the 25% in United States [Gilbert, et al. (1999)]. Studies consistently show that women ≥ 35 years of age are more likely than younger women to be delivered by caesarean [Bayrampour & Heaman, 2010]. The main reasons for the high rate of operative delivery in older women are an increased prevalence of medical complications, induction of labour and foetal malposition. Most common reason in this study was failure of induction. When specific indications for caesarean birth are evaluated, older women appear to have an increased risk of failure of labour to progress normally. The almost linear increase in the relationship between maternal age and uterine dysfunction is a continuous effect throughout the childbearing years [Main, et al.(2000); Treacy, et al.(2006); Greenberg, et al.(2007)].

Most common complication was PPH. Incidence of diabetes and PIH was low contradicting the study [Joseph, et al.(2005)] though exact cause was not found, multiparity was the possible explanation. This explains why there was no incidence of macrosomia. PPH was due to atonicity as a result of multiparity and poor myometrial function. Rate of abortion was 13.7% which was lower than the previous study [Anderson & Johnson, 2000]. Older women experience an increased rate of spontaneous abortion [Hassold & Chiu, 1985]. These losses are both trisomic and euploid and primarily result from a decline in oocyte quality. Changes in uterine and hormonal function may also play a role. The vast majority of losses occur between 6 and 14 weeks of gestation. Ectopic pregnancy is a major source of maternal mortality and morbidity in early pregnancy. Risk of ectopic pregnancy was 2.9% which was slightly lower than the previous study [Hassold & Chiu, 1985]. Maternal age ≥ 35 years are associated with a four to eight fold increased risk of ectopic pregnancy compared to younger women [Hassold & Chiu, 1985]. There was no incidence of maternal mortality.

Advanced maternal age is responsible for a substantial portion of the increased rate of low birth weight and preterm delivery [Anderson & Johnson, 2000; Jolly, et al.(2000); Salihu, et al.(2003); Cleary-Goldman, et al.(2005); Yogy, et al.(2010)]. Underlying cause was not found. There was no incidence of fetal macrosomia contradicting the study [Jolly, et al. (2000)]. Stillbirth increased with increasing maternal age as is observed in study [haung, et al. (2008)].

Conclusion

Even though advanced maternal age is commonly associated with complications, in our study, feto-maternal outcome was satisfactory. The results obtained were different from the other studies because of the characteristics of the study population. Further research is needed for establishing the guideline for management of pregnancy in advanced maternal age.

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Declarations

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Abbreviations

KG – kilogram

NICU – Neonatal Intensive Care Unit

PIH-pregnancy induced hypertension

PPH-post partum haemorrhage

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