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Original Research Article

A study of fetomaternal outcome in elderly primigravida

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ABSTRACT

Background: Elderly primigravida is defined as all women going through their first pregnancy over the age of ≥35 years. They are considered to be categorized as high-risk pregnancy. Advanced contraception methods and artificial reproductive technology have played key role in delaying the pregnancy.
Methods: A retrospective study of fetomaternal outcome in elderly primigravida was conducted at department of obstetrics and gynecology, GMERS medical college, Junagadh from 1st September 2021 to 1st August 2022. All the patient data was obtained from their case records and indoor files and were followed up till delivery for fetal outcome.
Results: There were 54 elderly primigravida patients in our study with an incidence of 1.05% based on the inclusion criteria with 96.3% between the age 35-40 years. Most common reason for delayed child bearing was pursuing higher education and work preferences. Gestational hypertension was most common maternal complication (48%), associated with preeclampsia in 28%. Among fetal complications 46% had low birth weight, 38.5% had IUGR. 54% patients had delivered by LSCS.
Conclusions: Although elderly primigravida is considered a high-risk pregnancy with increased maternal and fetal complications, proper antenatal care, early recognition of maternal risk factors with timely intervention pregnancy outcome can be improved.

Keywords: Elderly primigravida, High risk pregnancy, Maternal and fetal complications

INTRODUCTION

An increasing age of a woman leads many health-related problem, hence pregnancy though being a normal physiological condition woman who conceive at an advanced age are at increased risk of complications both maternal and fetal and are hence categorized in high-risk pregnancy.[1] International Federation of Gynecology and Obstetrics in 1958 recommended that all women above the age of ≥35 years who become pregnant for the first time are defined as 'elderly primigravida'.

With increasing incidence of delayed marriage, carrier priorities, divorce, followed by remarriage and artificial reproductive technologies, more and more women now become pregnant for the 1st time after age of 35 and they are more likely to encounter complications that occur as a result of natural process of growing older. Elderly primigravida is associated with obstetrical complications like gestational hypertension, chronic hypertension, preeclampsia, gestational diabetes mellitus, risk of abortion, instrumental delivery and caesarean section. The increased incidence of underlying medical disorder, decreased cardiovascular reserve that occurs with increasing age might lead to adverse outcome.[2] The need for ART for conception is increased day by day in patients with increased age due to poor ovarian reserve and hence the pregnancy outcome in such patients is different from those with natural conception.[3]

Objective of our study is to identify the reasons amongst couples for delayed 1st conception in current trends, risk

factors associated with elderly primigrvida patients, complications in pregnancy and during labour due to advanced age and their effects on mode of termination of pregnancy and fetal outcome.

METHODS

A retrospective study of fetomaternal outcome in elderly primigravida was conducted at department of obstetrics and gynecology, GMERS Medical College, Junagadh from 1st September 2021 to 1st August 2022. There were 54 patients included in elderly primigravida as per definition during study period.

Patient inclusion criteria

Pregnant patients with age ≥35 years. Patients who have conceived for the 1st time irrespective pregnancy outcome.

Patient exclusion criteria

Pregnant patients with age <35 years. Patients with major cardio-respiratory illness.

Patient details were obtained from their case and indoor files which included detailed history, examination findings, blood investigations and fetal ultrasound, mode of delivery, any intrapartum and postpartum complications along with details of newborn and neonatal complications and the data was analysed with Microsoft excel.

RESULTS

There were 54 elderly primigravida who delivered at our institute amongst 5120 deliveries during the study period, which led to the incidence of elderly primigravida as 1.05% in the study. 48 (88.89%) patients were registered at our institution, compared to 68.6% in study by Eke et al.[4]

Social and demographic factors

Majority of patients (37%) were in the age group of 36-38 years, while 31.4% had age =35 years.

Table 1: Distribution as per age.

Age (years)	N=54 (%)
=35	27 (31.4)
36-38	29 (37)
39-40	6 (11.1)
>40	2 (3.7)

Table 2: Distribution as per religion.

Religion	N=54 (%)
Hindu	48 (88)
Muslim	2 (3.7)
Christian	4 (7.4)

In our study 88% elderly primigravida were Hindu, 7.4% were Christian and only 3.7% were Muslim.

Table 3: Education and occupation.

Education	N=54 (%)	Occupation	N=54 (%)
Illiterate	7 (12.3)	Housewife	32 (59.3)
Upto 10th	5 (9.25)	Working women	22 (40.7)
Upto 12th	19 (35.1)		
Graduate and above	23 (42.5)		

The educational status of the patient showed 35% women had studied upto12th standard, while 42.5% were graduate and above, only 12.3% were illiterate. Among occupational distribution 59.3% patient were housewife and 40.7% were working women.

Table 4: Reasons for delayed child bearing.

Reasons	N (%)
Education	31 (57.4)
Job preference	20 (37)
Infertility	14 (25.9)
Social factor	3 (5.55)

Amongst reasons for postponing child bearing pursuing higher education was most common in 57.4% patients, 37% had priority for job, while 25.9% had difficulty in conceiving due infertility. 5.5% had social factors like divorce and history of 2nd marriage for delayed conception.

Table 5: Maternal complications.

Complications	N=50 (%)
Abortion	6 (12)
Gestational hypertension	24 (48)
Preeclampsia	14 (28)
Antepartum hemorrhage	8 (16)
Gestational diabetes mellitus	8 (16)
Anemia	11 (22)
Oligohydramnios	18 (36)
IUGR	16 (32)
Pregnancy with fibroid uterus	4 (8)
Multiple gestation	10 (20)
Postpartum hemorrhage	4 (8)

In our study 48% females had gestational hypertension as most common complication associated with elderly primigravida, 28% had preeclampsia, 36% had oligohydramnios and 32% had intrauterine growth restriction. 20% had multiple gestation due infertility treatment with ART.

81.5% patients had delivered at term beyond 37 weeks of gestation including 3.7% delivering beyond 40 weeks, while 18.5% had delivered preterm before 37 weeks due to

antenatal complications. LSCS was most common mode of delivery in 57.4%, while 14.8% required instrumental vaginal delivery and 27.8% had normal vaginal delivery.

Table 6: Period of gestation and mode of delivery.

Gestational age	N =54 (%	Mode of delivery	N =54 (%)
<37 weeks	10 (18.5)	Normal vaginal	15 (27.8)
37-40 weeks	42 (77.8)	Instrumental vaginal	8 (14.8)
>40 weeks	2 (3.7)	LSCS	31 (57.4)

Table 7: Fetal outcome.

Fetal outcome	N=52 (%)
IUGR	20 (38.5)
Prematurity	12 (23)
Intrauterine Death	2 (3.8)
Low Birth Weight	24 (46.1)
NICU admission	20 (38.5)

Out of 65 neonates delivered during study period 52 had fetal complications with 46% having low birth weight, 38.5% had IUGR and 23% were premature. 2 (3.8%) fetuses had intrauterine death and 38.5% required NICU admission.

DISCUSSION

In current scenario delayed marriage and delayed child bearing have increased day by day due to increased female literacy and higher education and many women are now becoming self-dependent by working in different sectors, hence having their 1st pregnancy at the age of ≥35 years is increasing. The incidence of elderly primigravida in our study was 1.05%.

A study by Cleary et al suggested a higher risk of spontaneous abortion in patients with increased age and risk of anomalous fetus also increases leading to medical termination of pregnany.[5]

The socio-demographic factors like religion, education, occupation also have influence on child bearing like 88% patients were Hindu which has cultural practice of late marriage, while 7.4% were Christian and only 3.7% were Muslim. 88.7% patients were educated, with 35% till 12th and 38.8% graduate and above yet 59.3% were housewife and 40.7% were working women similar to study by Marai et al where 45% were educated till 12th and 65% were housewife.[6]

Higher education and job preference which leads to lack of opportunity to meet appropriate partner leads to delayed marriage and late conception as also observed in study by Amarin et al.[7]

Management of elderly primigravida at our institution

Preconception

Preconceptional counselling is offered to all elderly patients who want to conceive as they can have pre-existing medical condition like hypertension and are at increased risk of having baby with chromosomal defect.

Antepartum

Ultrasonography at 11-12 weeks for NT scan and targeted scan at 10-20 weeks for gross congenital anomaly.

Regular antenatal visits for maternal as well as fetal wellbeing and fetal surveillance with ultrasonography and doppler study.

Seek medical opinion in patients with pre-existing medical condition.

Intrapartum

All are advised to have hospital delivery with proper maternal and neonatal care unit.

Monitoring of fetal heart rate with cardiotocography.

Optimizing route of delivery as per the obstetric condition with monitoring of labour.

Newborn to be immediately attended by neonatologist.

Postpartum

AMTSL to be followed to prevent PPH as elderly patients are at increased risk.

Contraception is advised taking in account age related risk factors.

Maternal outcome

In our study 50 patients had maternal complications. It has been observed that elderly primigravida are at increased risk of complication which can occur with increasing age amongst which hypertension is most common with increasing age and during pregnancy leading to gestational hypertension which was also the most common complication with 48% in our study in contrast to 10% in study by Meenakshi et al.[8] Other complication observed in elderly primigravida were oligohydramnios (36%), preeclampsia (28%), IUGR (32%), multiple gestation (20%) antepartum hemorrhage (16), pregnancy with leiomyoma uterus (8%) which were also seen in study by Marai et al.[6] Gestational diabetes mellitus was diagnosed in 16% which was much higher than 10% in study by Laxmy et al.[9] Amongst labour complications preterm labour is more common in elderly primigravida. In our

study 18.5% delivered preterm compared to study by Delbaere et al with 10.7%.[10] In our study 3.7% patients delivered after 40 weeks of gestation.

Amongst the mode of delivery 27.8% had normal vaginal delivery, 57.4% had undergone caesarean section whereas it was 64% and 52.07% in study by Vercellini et al and Bavrampour et al it was 64%.[11,12] 14.8% required instrumental vaginal delivery due to uterine interia, decreased joint mobility and elasticity of soft tissue of perineum with increasing age. Prolonged labour and non-progress of labour were most common indication for caesarean section followed by pregnancy complications like oligohydroaminios, preeclampsia, antepartum hemorrhage and multiple gestation.

In postpartum complications postpartum hemorrhage (PPH) was seen in 8% patients due to intrapartum uterine interia and atonic uterus postpartum in study by Oboro et al 4% had PPH.[13] In our study all the patients were managed conservatively with uterotonic agents and intrauterine packing and none of them required operative intervention and there was no maternal mortality due to PPH.

Fetal outcome

Among 65 neonates delivered during the study period 46% had low birth weight whereas study by Delpisheh et al had 36% neonates with low birth weight and suggested higher incidence of low birth weight in elderly promigravida.[14] 38.5% had intrauterine growth restriction and 23% were born preterm, comparable to study by Ziadeh et al with 22% IUGR babies.[15] In our study 38.5% neonates required Neonatal ICU admission for close observation and management of complications due to preterm and low birth weight. Immediate resuscitative measures by trained person have reduced perinatal morbidity and neonatal mortality.

There are some limitations of the study. There were some elderly primigravida who had registered at our institution but had not delivered here and were lost to follow up, hence their data could not be studied.

CONCLUSION

An elderly primigravida is always considered a high-risk pregnancy due to morbidities associated with advancing along with maternal and fetal complications. From our study it can be concluded that majority of elderly primigarvida belonged to upper and middle socioeconomic class with higher education. Majority of patients delivered at term with higher rate of caesarean section and instrumental delivery due to failed induction, cervical dystocia.

Gestational hypertension and preeclampsia were most common maternal complications associated with elderly primigravida leading to oligohydroamnios, IUGR and antepartum hemorrhage. With advancing age and decreased fertility need for IVF for conception increased leading to multiple gestation. PPH is a common complication in elderly patients. Among fetal complications IUGR, low birth weight and preterm neonates needing NICU admission were seen. There was no maternal mortality in the study which proves the fact that with timely antenatal registration, regular antenatal check-up along with fetal surveillance and counselling for hospital delivery and encouraging for contraception will help in early detection of complication and timely intervention for the same will reduce maternal morbidity and mortality amongst elderly patients significantly.

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