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Indian Journal of Obstetrics and Gynecology Research

Journal homepage: www.innovativepublication.com

Original Research Article

Fetomaternal outcome in elderly primigravida

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ARTICLE INFO

Article history:
Received 18-01-2020
Accepted 10-02-2020
Available online 15-06-2020

Keywords:
Elderly primigravida
Caesarean section
Complications

ABSTRACT

Background: Elderly primigravida is defined as women thirty five years of age or above who is pregnant for the first time. The advancement in the artificial reproductive technology have played an important part in delaying the pregnancy. Maternal age is no longer only important factor in women wishing for conception. Nevertheless the increased fetomaternal complication and consideration as a high risk leading to early intervention among these age group is of concern.
Objective: The objective of the study was to find out incidence and to determine fetomaternal outcome in elderly primigravida.
Materials and Methods: The study was cross sectional, conducted in Regional Institute of Medical Sciences, Imphal, Manipur over a period of one and half year. Elderly primigravida admitted at term in hospital were studied for fetomaternal outcome.
Results: Of 17890 delivery during the study period, 280 were elderly primigravida giving an incidence of 1.8%. Based on inclusion criteria, 166 were enrolled in study.
Maternal compilation seen were, Oligohydraminos 6.02%, Gestational hypertension 3.01%, Breech presentation 6.03%, PROM 4.2%, Placenta Praevia 2.4%, Gestational diabetes mellitus 0.6% and Twin gestation 2.4%.
Caesarean rate was 67.5% of which 62.5% was done for cephalopelvic disproportion. 5.3% baby was low birth weight.
Conclusion: Although fetomaternal complication in Elderly Primigravida is increased, with adequate antenatal care, early recognition of complication and timely intervention, optimum outcome can be expected. Further conclusion drawn from this study is rate of Caesarean section which is of concern and needs to be further assessed.

1. Introduction

Age is one of the important determining factor of the outcome of pregnancy. Either in spectrum is associated with the adverse outcome. As the age increases maternal medical and obstetrical complications rises. In 1958 the council of the International Federation of Obstetricians and Gynaecologists adopted a definitions specifying the elderly primigravida as one aged 35 or more at first delivery.[1] The study involving 2560 deliveries in India have showed the incidence to be 7%.[2] Elderly primigravida is associated with obstetrical complications like abnormal presentation, malpresentation, instrumental deliveries, antepartum and postpartum hemorrhage, hypertension, cephalopelvic disproportion and diabetes mellitus. The associated complication results in increased in caesarean section rate. The increase incidence of underlying medical diseases, decreased cardiovascular reserve and diminished ability to adapt to physical stress that may accompany aging would combine to increase adverse outcome.[3] As the standard of living increases, delayed marriage, in pursuit of job, women tend to delay marriage and hence pregnancy. The artificial reproductive technology have

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https://doi.org/10.18231/j.ijogr.2020.050

opened an opportunity to parenthood even at the advanced age. The outcome of pregnancy in relation to maternal age is different in women whose pregnancy is naturally conceived, compared to those who is conceived by assisted reproductive technology.[4]

2. Materials and Methods

The study was conducted in Department of Obstetrics and Gynecology, Regional Institute of Medical Sciences, Imphal from 1st October 2011-April 2013.

A total of 166 Elderly Primigravida admitted in Department of Obstetrics and Gynecology were enrolled in the study after taking the informed consent.

Elderly Primigravida with preexisting medical condition like Hypertension, Diabetes, Asthma and those unwilling to participate in the study was excluded from study.

On admission the detail history and examination was done. The blood samples were collected for routine examination. Obstetric ultrasound was done for growth and placental localisation. Data of patient and pregnancy termination details was recorded in performa.

3. Results and Observations

The study was conducted from 1st October 2011-April 2013. During the period there were 17890 deliveries of which 280 was elderly primigravida giving an incidence of 1.8%. 166 Elderly primigravida was enrolled to study foetal maternal outcome based on inclusion criteria.

3.1. Socio-demography

3.1.1. Age

More than half (54.8%) of the respondents were from age group 36-40 years as shown in Table 1.

Table 1: Distribution of respondents based on age

Age in years	Number of cases	Percentage
35	68	41.0
36-40	91	54.8
>40	7	4.2
Total	166	100.0

3.1.2. Religion

Majority of the elderly primigravida were from Hindu (98.2%), few from Christian (1.8%) and none from Muslim as shown in Table 2.

Table 2: Distribution of respondents based on religion

Religion	Number of cases	Percentage
Hindu	163	98.2
Christian	3	1.8
Muslim	0	0.0
Total	166	100.0

3.1.3. Occupation

Majority of the elderly primigravida were housewife which accounted for 84.3% of cases followed by teacher (6.6%) as shown in Table 3.

Table 3: Distribution of respondents based on occupation

Occupation	Number of cases	Percentage
Housewife	140	84.3
Teacher	11	6.6
Weaver	2	1.2
Business	2	1.2
Nurse	2	1.2
NGO	2	1.2
Constable	1	0.6
Laborer	1	0.6
Lawyer	1	0.6
Co-coordinator	1	0.6
Lecturer	1	0.6
Anganwadi worker	1	0.6
Airhostess	1	0.6
Total	166	100.0

3.1.4. Educational level

Class X standard and below constituted most common (38.5%) education level for elderly primigravida followed by graduate and above (32.7%) as shown in Table 4.

Table 4: Distribution of respondents based on educational level

Educational level	Number of cases	Percentage
Illiterate	13	7.8
$\leq$ X standard	64	38.5
XI-XII standard	35	21.0
Graduate and above	54	32.7
Total	166	100.0

3.1.5. Socio-economic status (SES)

Majority of the cases were from middle socio economic class which accounts for 83.8% of cases as shown in Table 5.

Table 5: Distribution of respondents based on SES

SES	Number of cases	Percentage
Lower	19	11.4
Middle	139	83.8
Upper	8	4.8
Total	166	100.0

3.1.6. Booked status

Most of the respondents were booked which accounts for 94.6% of cases as shown in Table 6.

Table 6: Distribution of respondents based on booked status

Booked status	Number of cases	Percentage
Booked	157	94.6
Unbooked	9	5.4
Total	166	100.0

3.2. Period of gestation

Most of the cases were termed (93.4%), few were preterm (3%) and few (3.6%) were post term as shown in Table 7.

Table 7: Distribution of respondents based on period of gestation

POG	Number of cases	Percentage
<37 weeks	5	3.0
37-40 weeks	155	93.4
>40 weeks	6	3.6
Total	166	100.0

Table 8: Distribution of respondent based upon the antenatal complication

Complications	Number of cases	Percentage
Oligohydraminos	10	6.02
Gestational hypertension	5	3.01
Placenta praevia	4	2.4
Gestational diabetes	1	0.6
Preterm	2	1.2
Uterine leiomyoma	6	3.6
Polyhydraminos	3	1.8
Twins	4	2.4
Malpresentation	1	0.6
Breech	10	6.03
PROM	7	4.2
Anemia	2	1.2

3.3. Maternal outcome

3.3.1. Mode of delivery (MOD)

Majority of the elderly primigravida cases were delivered by LSCS which accounted for two third of cases.

Table 9: Distribution of respondents based on mode of delivery

Mode of delivery	Number of cases	Percentage
Vaginal	54	32.5
LSCS	112	67.5
Total	166	100.0

The main reason for doing LSCS in elderly primigravida was cephalo-pelvic disproportion (62.5%) followed by oligohydramnios (8.9%).

Table 10: Distribution of respondents based on reasons for doing LSCS in elderly primigravida

Reasons for LSCS	Number of cases	Percentage
Cephalo-pelvic disproportion	70	62.5
Oligohydramnios	10	8.9
Breech	8	7.1
PIH	5	4.4
Placenta preavia	4	3.5
Others*	15	13.9
Total	112	100.0

*include twins, transverse lie, non progress of labour, postdated pregnancy, heart disease with CPD, etc.

Table 11: Distribution of respondents based on complications during delivery

Maternal complications	Number of cases	Percentage
Yes	0	0.0
No	166	100.0
Total	166	100.0

3.4. Maternal complications

There was no maternal complication detected in the study.

3.5. Fetal outcome

Table 12: Distribution of respondents based on sex of the baby in elderly primigravida

Sex	Number of cases	Percentage
Male	82	48.3
Female	88	51.7
Total	170	100.0

Little more than half of the babies were females (51 7%)

Table 13: Distribution of respondents based on sex of the baby in elderly primigravida

Agpar score	Number of cases	Percentage
Score of 7	5	3.0
Score of 8	13	7.8
Score of 9	148	89.2
Total	166	100.0

Most babies had a apgar score of 9 (excluding 2^{nd} baby of twins) which accounted for 89.2% as shown in Table 10.

Majority of the babies weighted 2.5 to 4kg which accounted for 91.8% and few had weight less than 2.5 (5.3%).

Table 14: Distribution of respondents based on weight of the baby in elderly primigravida

Weight in Kg	Number of cases	Percentage
<2.5	9	5.3
2.5-4	156	91.8
>4	5	2.9
Total	170	100.0

4. Discussion

The impact that the decision to delay childbearing has on maternal and perinatal outcomes have become increasingly relevant as more and more women postpone having children until they are over the age of 35year. The study was carried out in Regional institute of medical sciences (RIMS) to find out the outcome in those group of women. The incidence of elderly primigravida in RIMS was 1.8% which was similar to study conducted by Ojule et al.[5] of 1.4%. The lower incidence might be due to increasing rates of abortion that had lead to pregnancy loss before viability or due to reduced access to hospital care. Most of the patients had undergone abortion or miscarriage by the time they reach 35year. Among elderly primigravida 41% belonged to age group of 35year, 54.8% were of 36-40 years and 4.2% >40year.

Religion itself has an influence in the age of marriage. 98.2% were Hindu (meetei) where there is a cultural practice of late marriage, 1.8% was Christian, whereas in this study no Muslim elderly primigravida was recorded.

Despite 38.5% were educated up to 10^{th} standard, 32.7% graduate and above, 84.3% was housewife or not working in contrast to study by Marai et al.[6] where 65% was housewife and 45% was educated till 12^{th} standard.Whether the pregnancy was as a result of delayed childbearing in pursuit of goals or delayed conception with period of subfertility, further study has to be undertaken.

Initially elderly primigravida was considered among the well to do class Benjamin et al[7] in this study 83.8% belonged to middle class, 11.4% to lower and 4.8% to upper class, indicating there is change in attitude toward late conception due to better obstetric care and it increasing prevalence in all the socio-economic strata.

94.6% of elderly primigravida was admitted as a booked case in RIMS with regular antenatal checkup, which is higher in comparision to study by Eke et al.[8] where 68.6% of elderly primigravida was booked. The earlier diagnosis of complication results in optimal management and fetomaternal outcomes.

An interesting aspect of this study was that the advancing maternal age was not significantly associated with the hypertensive complication of pregnancy. The occurrence of hypertensive complication in this study was 3.01%, this is in contrast to other studies where the hypertensive diseases were more frequent. This study have a result similar to study by Jane et al.[9] where there was no statistically significant occurence of hypertensive disorder of pregnancy. Other pregnancy related complications were oligohydraminos (6.02%), PROM (4.2%), placenta praevia (2.4%), gestational diabetes (0.6%), uterine leiomyoma (3.6%), polyhydraminos (1.8%), twin (1.8%), transverse lie (0.6%), breech (2.4%) and anemia (l1.2%) which was similar to study undertaken by Marai et al.[6]

Over years studies have shown the increase in incidence of preterm and postterm delivery among elderly primigravida. In the study by Jane et al.[9] the incidence of preterm was 5.2%, in our study 3% delivered preterm, before 37week, 93.4% between 37-40 week and 3.6% after 40week. This conflicting result might be due to management of all elderly primi as a high risk with intensive monitoring during antenatal visit and with frequent admission in hospital before term for safe confinement.

As with other study 67.5% of elderly primigravida was delivered by caesarean section which was similar to study by vercellini et al.[10] where the incidence was 64%. Among those who delivered vaginally 1.8% needed instrumentation. There was two assisted vaginal breech delivery. The most common indication for caesarean section was cephalopelvic disproportion in 62.5%, followed by oligohydraminos in 8.9%, for Breech was 7.1%, for placenta praevia in 3.5% and others like for twins, transverse lie, non progress of labour, postdated pregnancy constituted 13.9%. Majority of caesarean sections was elective. Those who delivered vaginally were usually in active labour. Eke et al found that the most common indication of ceasarean section was cephalopelvic disproportion in 15.9% followed by fetal distress in 4.9%.Similarly Sivalingam et al.[1] reported the commonest indication to be prolonged labour in 38.7% followed by preeclampsia in 20.4%, breech in 12.2% and placenta praevia in 2.04%.

There was no postpartum complication either following caesarean or Vaginal delivery in our study. Oboro et al.[11] noted postpartum hemorrhage in 4% and retained placenta in 6.4% of cases. The trend of considering the elderly primi as a high risk had lead to prophylactic intervention to prevent complications in postpartum period.

Among 170 babies born, 51.7% were female. The incidence of low birth weight babies were 5.3% while 2.9% had a birth weight of >4kg which is similar to study by Marai et al.[6] where the 13% babies had a low birth weight and 5% was macrosomic. The APGAR score of <7 at birth was present in 3% of cases while maximum of the babies, in 89.2% APGAR score was 9. This in comparision to findings of study by Sahu et al.[2] where APGAR score of <7 at 5minute was seen in 13.5%. The initial resuscitative measure as well as presence of skilled personel during delivery plays a key role in reduction of perinatal morbidity. In this study two babies needed admission into NICU because of prematurity and low APGAR score, however there was no perinatal death.

5. Conclusion

The elderly primigravida remains at high risk with unpredictable pregnancy outcome. In our study majority of women delivered at term without maternal and perinatal adverse outcomes. Advancing age did not appeared to be associated with hypertensive complications. Nonetheless as age increases, they become prone to obstetric complications along with medical complications concomitant with aging. The caesarean rates was high whether as a result of obstetric indication or considering age factor as an indication, have to be reviewed. Although the likelihood of complications increases with the age, patients can be reassured that overall maternal and fetal outcomes are favorable with regular antenatal, emergency obstetric care and skilled personnel during labor.

6. Source of Funding

None.

7. Conflict of Interest

None.

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Cite this article: Thatal A, Luksom PG, Narwat Y. Fetomaternal outcome in elderly primigravida. *Indian J Obstet Gynecol Res* 2020;7(2):243-247.