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Original Research Article

Pregnancy outcome in elderly primigravida

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ABSTRACT

Background: Incidence of elderly primigravida has increased now days, due to rising education level, effective means of birth control and high carrier goals. The women who conceived in advanced age more than 35 years for first time is defined as elderly primigravida. Indian standard is fixed at more than 30 years by Dutta 2013. These women are high risk for maternal and foetal complication and outcome. The study was done to assess pregnancy outcome in elderly primigravida.

Methods: This is a prospective hospital-based study done from October 2016 to November 2018. Women of reproductive age group with first pregnancy admitted to department of obstetrics and gynaecology, Veer Surendra Sai Institute of Medical Science and Research, Burla were taken after exclusion criteria.

Results: The incidence of elderly primigravida was 2.51%. But majority (84.76%) though married early, conceived late. Most of them are belongs to high socioeconomic group (62.86%). Anaemia was commonest complication (28.57%), fibroid in 5.71% cases. Pre-eclampsia (18.09%), eclampsia (3.81%), IUGR (12.38%) and twin pregnancies (5.72%) were seen more frequently than young primigravida. 55.24% were developed complications during labour like foetal distress (33.33%), PPH (3.81%) and retained placenta (2.86%). Gestational diabetes mellitus in (0.95%), caesarean section rate 29.52%, normal delivery 51.42%, and congenital anomaly 8.15%.

Conclusions: Elderly primigravida are high-risk for several complications like spontaneous abortion, preterm labour, prolonged labour, foetal distress, high caesarean rate, PPH, congenital anomaly and increased incidence of perinatal mortality. Majority of this patients properly supervised are capable of safe and successful pregnancies ending in healthy mother and healthy baby.

Keywords: Caesarean section, Elderly primigravida, Foetal complication, Gestational diabetes, Maternal outcome, Preeclampsia

INTRODUCTION

Women, who have their first pregnancy late, are called elderly primigravida. They consist of two groups; women being married early conceive late or marry and conceive late in the 3rd decade of life. Though the age limits are arbitrary, international standard FIGO-1951 of 35 years has been fixed as the lower age limit for elderly primigravida by Tuck et al.¹ and the Indian standard is fixed at 30 years by Dutta.²

There is a shift in child bearing pattern among the older women, including delaying pregnancy until completion of educational or career goals, and marriage or remarriage later in life by Barton JR et al.³ There is a fall in fecundity. These women are high risk for both maternal and foetal outcome.⁴⁻⁸ Spontaneous abortion as observed by Tuck et al, and Ales KL was 24%.^{1,9} The incidence of hyperemesis increases as observed by Luftman, 1952 is 25%.¹⁰ Gestational and overt diabetes rate increases with advancing maternal age, as found to be 7.2% and 8.3%

by Mikulandra F et al and Prysak et al.^{11,12} Pre-eclampsia and eclampsia are seen more commonly in elderly primigravida as observed by and Bobrowski and Bottoms.¹³ Elderly primigravida would be at increased risk for placental abruption, preterm labour (Mukhapadhyay et al is 29.68%).¹⁴

Incidence of prolonged labour, uterine dysfunctions, malpresentations (occipito posterior, breech), twins, inelastic perineum and anxiety state are increased. Incidence of persistent occipito posterior and breech, as observed 7.9% by Weisl.¹⁵ Increased incidence PROM and fetal distress leads to high induction rate and operative interference. C.S. rates were 27%, 54.6%, 22%, 32% as experienced by Tuck, Barton JR et al, Li TC et al, and Dildy et al, respectively.^{1,3,16,17} The still birth rate too increased in elderly primigravida by Higdon.¹⁸

Common complications encountered in foetus are low birth weight, congenital anomalies, like Down's syndrome, anencephaly, hydrocephalus, and also macrosomia.

This study has been taken to observed obstetric outcome in elderly primigravida keeping all these in view. It is a real challenge to obstetrician to manage this high-risk pregnancy group.

Objectives of this study was to find out the incidence of maternal complications in cases of elderly primigravida. To find out the fetal outcome in elderly primigravida. To compare the obstetric outcome in elderly primigravida with that of young primigravida.

METHODS

It is a prospective analytical study conducted from October 2016 to November 2018. Women of reproductive age group with first pregnancy admitted to department of obstetrics and gynaecology, Veer Surendra Sai Institute of Medical Science and Research, Burla were taken control group was taken as young primigravida aged (23-29 years) in the same period and number were 1872. The study was approved by ethical committee VSSIMSAR.

Inclusion criteria

- Primigravida above 30 years of age admitted to department of obstetrics and gynaecology, Veer Surendra Sai Institute of Medical Science and Research, and Burla and willing to give consent.

Exclusion criteria

- Patients with pre-existing medical conditions.

A detailed history of name, age at consummation of marriage was taken into consideration. If conceived after a long period of infertility, causes of delayed conception

were enquired and Practice of contraceptive methods were asked.

A detailed general examination, pelvic assessment mode of delivery, complication during labour, fetal outcome was recorded in Performa.

Statistical analysis

Data presentation was done using tables. Data was expressed as simple percentage. chi square was used to test the significance between study and control group.

RESULTS

The maximum no. of elderly cases was from 30-34 years age group i.e. 282 (89.52%). Only two cases were found above age of 40 years (1.91%).

Table 1: Age distributions.

Total group in years	No. of patients (study group) 315	Percentage (%) 100
30-34	282	89.52
35-39	27	8.57
40+	6	1.91
Total	315	100

Table 2: Association with infertility.

Type	No. of cases	Percentage (%)
Married late but conceived < 1 year	48	15.24
Married early but conceived > 2 year (voluntarily)	54	17.14
Married early but conceived late > 2 year (involuntary infertility)	213	67.62
Total	315	100

Majority of patients had history of infertility either voluntary (17.14%) or involuntary (67.62%) in the studied cases.

Table 3: Associations with socio economic status.

Groups of people	No. of case of elderly	Percentage (%)
Upper (Group - I)	198	62.86
Middle upper (Gr.- II)	30	9.52
Middle lower (Gr. - III)	75	23.81
Poor (Gr.- IV)	12	3.81
Total	315	100

Maximum no. of cases belongs to upper group i.e. 198 cases (62.86%).

A total 57.14% case had no associated complications. Among others anaemia was found in 28.57%. However, 18 cases had associated fibromyoma constituting 5.71%.

Table 4: Associated complications.

Diseases	No. of cases	Percentage (%)
Anemia	90	28.57
Sickling positive	09	2.86
Diabetes	03	0.95
Heart disease	06	1.91
Tuberculosis	00	00
Fibroids	18	5.71
Ovarian cyst	03	0.95
Bicornuate uterus	06	1.91
Without complications	180	57.14
Total	315	100

Maximum no. of cases in study (52.38%) and control groups (74.36%) were uncomplicated. However, there was relative increase in incidence of obstetrical complications in study group with special mentioned to pre-eclampsia, eclampsia and IUGR which were 18.09%, 3.81% and 12.38% in comparison to 11.00%, 1.87% and 8.49% of control group.

A total 51.42% of study and 72.48% of control group had normal deliveries. However, the incidence of caesarean section was almost doubled in the study group (29.52%) with that of control (14.37%). Among the CS 60 (64.52%) were done as emergency cases and 33 (35.48%) were done as elective cases in the study group.

There were no complications in 44.76% of cases. Foetal distress was the commonest complication found in 105 (33.33%) out of 315 cases whereas, retained placenta and primary PPH were the least common (2.86% and 3.81% respectively).

Table 5: Obstetrical complications.

Diseases	Study group		Control group	
	No. of cases	Percentage (%)	No. of cases	Percentage (%)
Pre-eclampsia	57	18.09	206	11.00
Eclampsia	12	3.81	35	1.87
APH (Abruptio)	09	2.86	19	1.02
Hydramnios	15	4.76	40	2.14
I.U.G.R.	39	12.38	159	8.49
Twin	18	5.72	21	1.12
Uncomplicated	165	52.38	1392	74.36
Total cases	315	100	1872	100

Chi sq = 85.21; Df = 6; p = <0.001.

Table 6: Mode of delivery comparison.

Diseases	Study group		Control group	
	No. of cases	Percentage (%)	No. of cases	Percentage (%)
Normal	162	51.42	1357	72.48
Forceps	48	15.25	194	10.37
Craniotomy	09	2.86	18	0.96
Assisted breech	03	0.95	34	1.82
Caesarean Section	93	29.52	269	14.37
Total	315	100	1872	100

Chi sq = 69.46; Df = 4; p = <0.001.

A total 93.39% in study group and 94.39% in controls had live births. There was slight increase in still birth rate in study group (6.61%) in comparison to control (5.61%).

The incidence of elderly primigravida was 2.51% as compared to total deliveries. The elderly primigravida were classified in to two groups i.e. with or without previous history of infertility. 89.52% of study group belong to age group 30-34 years. 15.24% of cases

married late but conceived soon. But majority (84.76%) though married early, conceived late. Majority in study group belong to high socioeconomic group (62.86%). Among the associated diseases complicating pregnancy, anaemia was commonest one (28.57%). Associated fibroid was detected in 5.71% cases. Occurrence of pre-eclampsia (18.09%), eclampsia (3.81%), I.U.G.R. (12.38%) and twin pregnancies (5.72%) were seen more frequently than young primigravida.

Table 7: Complication during labour.

Type	No. of cases	Percentage (%)
Fetal distress	105	33.33
Early rupture membrane	48	15.24
Retained Placenta	09	2.86
Primary PPH	12	3.81
Uncomplicated	141	44.76
Total	315	100

The incidence of forceps deliveries (15.25%) and caesarean section (29.52%) were significantly increased. Among those 55.24% developed complications during labour like foetal distress (33.33%), early rupture of membrane (15.24%), PPH (3.81%) and retained placenta (2.86%). There was increased incidence of congenital malformations in elderly (8.1%) in comparison to young cases (0.69%). Only 3 babies were born with features of mongolism and 6 babies with polydactyl among 315 babies whereas not a single case was detected in 1872 babies of young primigravida mothers.

Table 8: Incidence of still birth and live birth.

Type	Control group		Study group	
	No. of cases	Percentage (%)	No. of cases	Percentage (%)
Live Births	1767	94.39	294	93.39
Still Birth	105	5.61	21	6.61
Total	1872	100	315	100

Chi sq = 0.50; Df = 1; p = 0.48.

Both still birth rate (6.31%) and early neonatal deaths (2.70%) were high in elderly primigravida leading to an increased perinatal mortality rate (102/1000 live births) than young controls (65/1000 live births).

DISCUSSION

Due to changing trend of lifestyle, high ambitious women are getting their first pregnancy late. The elderly primigravida are high-risk for many complications both maternal and foetal, which occurs due to increasing age.

By definition more than 35 years is taken as age limit by FIGO, 1959; whereas in India 30 years and above is considered as elderly primigravida by Holland and Brews 1997 and this was taken as age limit in the present study. As Indian women marry early due to poverty, illiteracy and social compulsion, they are considered elderly primigravida if they don't conceive until 30 years of age. The incidence of elderly primigravida was 2.51% which comparable with Dutta 1948 figure which was 4% taking 30 year's lower age limit.¹⁹ But Tuck et al has found an increase in incidence from 1.8% in 1978 to 3.0% in 1983, considering 35 years as lower age limit. This discrepancy may be due to improvement in socio economic and educational status, career consciousness resulting in higher age at marriage, and delaying the first pregnancy.

Table 1 reveals majority (282 cases) were in the age group between 30-34 years i.e. 89.52%, whereas 33 cases were above 35 years. As the fall in fecundity was estimated to start at around 31 years (critical age) the probability of pregnancy in a woman aged 35 years or more was decreased about half to that of a woman aged 25 years by Zaadstra VN et al.²⁰

Table 2 The finding of involuntary infertility as consistent with that of Macleod et al, i.e. 68%.¹⁶ However, the percentage of voluntary infertility was lower (17.14%) in present series in comparison to Tuck et al 1988 series who found incidence to be 73.13%.¹ This disparity could be due to poor socio economic status, illiteracy, and even in the educated group due to lack of carrier seeking attitude.

Table 3 shows that majority of cases 198 i.e. 62.86% were from upper class in the study group which tallies with the study of Tuck SM et al, figure of 62.8% in social class 1 and 2.1 This is because of the fact that upper and middle classes being more educated, they knowingly conceive late by getting married late, or though married early prolong the marriage conception interval by presently available modern contraceptive methods and thus delaying child birth till their financial stability is achieved and career goals are attained.

Table 4 majority 90 cases (28.57%) had anaemia of moderate degree. Incidence of fibroids complicating pregnancy was 5.71% which coincides with observation shown by Young, Tuck SM et al i.e. 4.6%, and 4.1% respectively.^{1,21} The increased incidence of fibroids can be explained because of advanced age and associated infertility.

Table 5 it was found that there were 57 pre-eclampsia cases (18.09%) and 12 eclampsia (3.81%) cases in comparison to 11.00% and 1.87% in controls. The incidence of pre-eclampsia and eclampsia have been observed 12.7%, by Tuck SM et al which were almost equal to present series values.¹

Incidence of APH was lower in younger age group (1.02%) than study group considering the increased frequency of essential hypertension with advancing age. Also, it may be due to folic acid deficiency and associated toxemia in pregnancy. The IUGR rate as observed by Barton JR was 14% which almost tallies with present study i.e. IUGR (12.38%) whereas in control group it was 8.49% showing a significantly higher rate among elderly women.³ The increased rate may be attributed to associated toxemia and nutritional factors.

There were 15 hydramnios cases (4.76%) and this incidence was attributed to the presence of congenital anomalies of the babies like anencephaly.

Table 6 the mode of deliveries showed a decrease in normal deliveries and increase in abnormal deliveries with high caesarean section 93 cases (29.52%). The increase in C.S. rate was due to the fact that obstetricians more often do not hesitate to do elective C.S. in elderly primigravida rather than have difficult forceps in which due to rigidity and inelasticity of perineum.

Table 7 the complications during labour were foetal distress 35 cases (33.33%) and early rupture of membrane (15.24%) which are in consistent with Luftman.¹⁰ Increased complications may be attributed to toxemia, malpresentations, uterine dysfunction and preterm labour. The inertia of 1st and 2nd stage of labour is likely to continue in to third stage causing PPH. Manual removal of placenta is required more frequently and the co-existence of fibroids makes this operation more likely. Perineal tears, cervical tears and vaginal lacerations may be added factor to cause PPH.

The observed high rates of perinatal mortality and morbidity may also be explained due to increased complications during antenatal period, operative deliveries.

CONCLUSION

Elderly primigravida is more likely to encounter complications during pregnancy and labour. Her decrease chances of further conception make pregnancy valuable and baby precious.

This high-risk group required special care with early booking, regular antenatal check-up and alert mind to detect and treat quickly any complication that may arise during the course. Her labour should be conducted in a well-equipped hospital by skilled hand and expert neonatologist should be available to take care of the baby. Majority of this patients properly supervised are capable of safe and successful pregnancies ending in healthy mother and healthy baby.

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REFERENCES

1. Tuck M, Yudkin PL, Turnbull AC. Pregnancy outcome in elderly primigravidae with and without a history of infertility. *BJOG.* 1988;95(3):230-7.
2. Dutta DC, Textbook of Obstetrics. 7th edition. New Delhi: Jaypee brother medical publisher(p) Ltd; 2013.22:special case;341.
3. Barton JR, Bergauer NK, Jacques DL, Coleman SK, Stanziano GJ, Sibai BM. Dose advanced maternal age affect pregnancy outcome in women with mild hypertension remote from term? *Am J Obst Gynae.* 1997;176(6):1236-943.
4. Anate M, Akeredolu O. Pregnancy outcome in elderly primigravida at University of Ilorin Teaching Hospital, Nigeria. *East African Med J.* 1996;73(8):548-51.
5. Bianco A, Stone J, Lynch L, Lapinski R, Richard L. Pregnancy outcome at age 40 and older. *Obstet Gynecol.* 1996;87(6):917-22.
6. Chan BCP, Lao TT. Influence of parity on the obstetric performance of mothers aged 40 years and above. *Human Repro.* 1999;14(3):833-7.
7. Urquhart DR, Tai C. Obstetric performance in the elderly Malaysian primigravida. *Asia Oceania J Obstet Gynecol.* 1991;17(4):321-5.
8. Scholz HS, Haas J, Petru E. Do primiparas aged 40 years or older carry an increased obstetric risk. *Prevent Med.* 1999;29(4):263-6.
9. Ales KL, Druzin ML, Santini DL. Impact of advanced maternal age on the outcome of pregnancy. *Surg Gynaecol Obstet.* 1990;171(3):209-16.
10. Charles A, Irving I, Luftman, Elderly primiparas. *Am J Surg.* 1952;83(2):155-60.
11. Mikulandra F, Merlak I, Persia M, Sikik D, Jerkovic J. Pregnancy and labour in women over 40 years of age. *Jugosl Ginekol Perinatol.* 1991;31(1-2):11-5.
12. Pryask M, Lorenz RP, Kisly A. pregnancy outcome in nulliparous women 35 years and older. *Obstet Gynecol.* 1995;85(1):65-70.
13. Bobrowski RA, Bottoms SF. Underappreciated risks of the elderly multipara. *Am J Obstet Gynaecol.* 1995;172(6):1764-70.
14. Mukhopadhaya P, Chaudhuri RN, Bhaskar P. Hospital based perinatal outcome and complications in teenage pregnancy in India. *J Health Popul Nutr.* 2010;28(5):494-500.
15. Bernard AG, Weisl. A five-year study of elderly primiparas. *Am J Obstet Gynaecol.* 1953;66(6):1235-47
16. Li TC, MacLeod I, Singhal V, Duncan SL. The obstetric and neonatal outcome of pregnancy in women with a previous history of infertility: a prospective study. *Br J Obstet Gynaecol.* 1991;98(11):1087-92.
17. Dildy GA, Jackson GM, Fowers GM, Oshiro, Varner, Clark. Very advanced maternal age -

- pregnancy after 45 years. *Am J Obstet Gynecol.* 1996;175(3):668-74.
18. Higdon AL. Pregnancy in the women after forty. *Am J Obstet Gynecol.* 1960;80:38-42.
19. Dutta PC. Elderly primigravidae. *BJOG.* 1948;55(1):68-70.
20. Van Noord BM, Zaadstra CW, Looman, Halsbach, JD, Habbema ER, Karbaat J. Delaying child bearing; effect of age on fecundity and outcome of pregnancy. *Br Med J.* 1991;302:1361-4.
21. Young JH. Age and parturition in primigravidae. *BJOG.* 1963;70(4):636.

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