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Original Research Article

Fertility, conception and complications in elderly primigravidas a comparative study: observational study

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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 at advanced age (>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 was a prospective comparative study done in 180 patients over a period of 18 months from September 2017 to March 2019. Among 180 patients 90 patients were elderly primigravidas more than 30 years of age and 90 patients were young primigravidas aged 20 to 29 years.
Results: Majority of elderly women though married early, conceived late, many women required other ovulation induction to ART dueto many associated complication with elderly primigravida C-section rate is higher in elderly as compared to vaginal delivery.
Conclusions: Elderly primigravida >30 years old had more difficulty in conceiving spontaneously as the fecundity is less with advanced age. The need for ovulation induction and other artificial reproductive techniques is higher in women with advanced age. The complications during pregnancy, labour and postpartum is higher in elderly primigravidas as compared to women less than 30 years of age.

Keywords: Primigravida, Foetal complications, ART, C-section

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 standards FIGO- 1951 of 35 years has been fixed as the lower age limit for elderly primigravida by Tuck et al and the Indian standard is fixed at 30 years by Dutta.[1,2] There is a shift in childbearing pattern among the older women, including delaying pregnancy until completion of educational or career goals, and marriage or remarriage later in life by Barton et al.[3] There is a fall in fecundity. These women are high risk for both maternal and foetaloutcome.[4-8] The incidence of hyperemesis, gestational and overt diabetes increases with advanced maternal age. Pre-eclampsia and eclampsia are seen more commonly in elderly primigravadas as observed by Bobrowski and Bottoms.[9] Incidence of prolonged labour, uterine dysfunctions, malpresentations (occipito posterior, breech), twins, inelastic perineum and anxiety state are increased.

Aims and objectives

Aims and objectives of the study were: to determine the frequency of primigravity aged 30 years and above in a sample in a tertiary care hospital (Sheri-i-Kashmir Institute

of Medical Sciences); to determine the pregnancy risks and outcomes in primigravida women aged above 30 years, compared to a reference group of primigravidas aged between 20 to 30 years; and to assess the obstetric outcome in elderly and young women in a tertiary care hospital.

METHODS

This study was a prospective comparative study conducted in postgraduate department of obstetrics and gynecology Sher-i-Kashmir Institute of Medical Sciences Maternity Hospital Srinagar, over a period of one and a half year since September 2017 to March 2019. A total of 180 patients were enrolled in the study and were divided into two groups on the basis of age.

Group A (study group)

This group included primigravida women aged 30 years and above. Total of 90 patients were enrolled in this group.

Group B (comparative group)

This group included primigravida women aged 20-29 years of age. Total 90 patients were included in this group. The total delivery and obstetric records were compared in terms of: methods of conception like natural or assisted in vitro fertilization or artificial insemination; complications occurring during pregnancy, labour and postpartum period; perinatal outcome; in terms of maturity, apgar score, birth weight, NICU admissions, and perinatal mortality.

Inclusion criteria was all primigravida women aged between 20 to 30 years are included in control group, all primigravida women in the age group of 30 and above are included in test group. Primigravida women ready to participate. Exclusion criteria was women having first pregnancy with prior abortion i.e. G2A1, women not ready to participate and cases lost during follow up.

Statistical method

Statistical packaged for social sciences (SPSS) version 22 was used for data analysis. The result was expressed in percentages or mean SD, as specified. Categorical data was analysed by using Pearson's Chi-square test and quantitative data by using two sample independent tests, p value less than 0.05 was taken as statistically significant.

RESULTS

Among study group, duration of marriage less than 2 years was seen in 46 (51%) patients as compared to 86 (95%). Patients in comparative group and 24 (26%) patients had duration of marriage between 2-5 years in study group and 3 (3.3%) patients had duration of marriage between 2-5 years in comparative group. 20 (22%) patients had duration of marriage more than 5 years in study group compared to only 1 (1.1%) patient in comparable group. The difference between the data of two groups was statistically significant (Table 1).

As regards the type of conception in study and comparative groups, 69 (76.6%) patients in study group had spontaneous conception while 88 (95.5%) patients in comparative group had spontaneous conception. The difference between the data of two groups regarding spontaneous conception was statistically insignificant.

However, 14 (15.5%) patients in study group conceived with ovulation and induction and 6 (6.6%) patients conceived with in vitro fertilization technique as compared to only 2 (2.2%) patients conceived with ovulation induction and none with IVF in comparable group. The difference between the two groups was statistically significant in this regard (Table 2).

Spontaneous labour occurred in 60% of patients in study group while 82.7% patients of comparative group had spontaneous onset of labour. Induction of labour was required in 39.1% of patients in study group and only 17.2% of patients in comparative group (Table 3).

Vaginal deliveries were seen in only 22 (24.4%) patients in group A as compared to 68 (75.5%) patients in group B. Caesarean section were seen in 65 (72.3%) patients in group A as compared to 21 (23.3%) patients in group B, instrumental deliveries were more 3 (3.3%) in group A as compared to 1 (1.1%) in group B. The difference in the mode of delivery between two groups was statistically significant (Table 4).

The incidence of elective caesarean section was higher in group A (58%) as compared to 28.5% in group B. However, the incidence of emergency C-section was higher in group B as compared to group A (71.4% versus 41.5%). The difference between the two groups was statistically significant (Table 5).

Table 1: Distribution of cases according to duration of marriage and birth of first child.

Years	Group A	Percentage	Group B	Percentage	P value
<2	46	51	86	95	
2-5	24	26	3	3..3	0.005 SSD
>5	20	22	1	1.1	

Table 2: Type of conception.

Type of conception	Group A	Percentage	Group B	Percentage	P value
Spontaneous	69	76.6	88	95.5	0.005 SSD
OVI	14	15.5	2	2.2	
ART	6	6.6	0	0	

SSD=Statistically significant data

Table 3: Onset of labour in study and comparative group.

Onset of labour	Group A		Group B		P value
	No.	**%**	**No.**	**%**	
Spontaneous	28	60	52	82.7	0.045
Induced	18	39.1	22	17.2	

Table 4: Mode of delivery in study and comparative groups.

Mode of delivery	Group A		Group B		P value
	No.	**%**	**No.**	**%**	
Vaginal	22	24.44	68	75.5	0.001
Caesarean	65	72.2	21	23.33	
Instrumental	3	3.3	1	1.1	

Table 5: Type of caesarean section in the study and comparative group.

Caesarean type	Group A		Group B		P value
	No.	**%**	**No.**	**%**	
Elective	38	58.4	6	28.57	0.032
Emergency	27	41.5	15	71.4	

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 occur with increasing age. In India 30 years and above is considered as elderly primigravida by Holland and Brews 1997 and this was taken as age limit in present study. In India if women do not conceive until 30 years of age they are considered elderly primigravida.

The incidence of elderly primigravida was 2.51% which comparable with Dutta 1948 was 4% taking 30 years of age limit.[10] Table 1 reveal the distribution of cases according to duration of marriage and both of first child 51% women conceived within 2 years of marriage, 26% of women conceived between 2 to 5 years of marriage and 22% women conceived more than 5 years of age. As the fall in fecundity was estimated to start around 31 years (critical age) the probability of pregnancy in a woman aged 35 years or more was decreased about half to that of woman aged 25 years by Zaadstra et al.[11]

Table 2 reveal 76.6% of women conceived spontaneously 15% required ovulation induction and 66% required IVF, IVI and embryo transfer to conceive.

Table 3 reveal that among elderly women 60% had spontaneous onset of labour compared to 82% in control group women less than 30 years of age. Approximately 39% of women in elderly primigravida required induction of labour compared to 17% in control group this disparity may have arisen because of elderly women not willing for normal vaginal delivery, also because they needed by to induced due to multiple medical complication like GOM, T2DM, Ch. HTN, and INCOP.

Table 4 reveal that vaginal delivery is less common in elderly primigravida and caesarean rate is higher in elderly primigravida (72%) compared to only 23% in study group.

This disparity may have arisen because of age related changes in female pelvis and associated high rates of fibroids adnexal cysts malpresentation in case of elderly primigravidas. Incidences of fibroids complicating pregnancy coincidence with observation shown by young Tuch et al i.e. 4.6% and 4.1% respectively.[12]

Table 5 reveal elective caesarean section is higher in elderly primigravida group 58% compared to 28% in control group.

However, emergency C-section is higher in control group.

This may be due to the fact that obstetricians more often do not hesitate to do elective C-section in elderly primigravida rather than have difficult forceps due to rigidity and inelasticity of perineum.

Limitations

Actual age determination remains a limitation in females. Study population could have been much larger had all the antenatal women been honest enough in telling their correct age.

CONCLUSION

Due to changing trend of lifestyle, high ambitious women are getting their first pregnancy late. The elderly primigravida are high-risk form any 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; whereasinIndia30yearsand 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. 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.

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