THE MATERNAL AND FETAL OUTCOMES IN ELDERLY GRAVIDA VERSUS YOUNG GRAVIDA WOMEN: A COMPARATIVE OBSERVATIONAL STUDY

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INTRODUCTION

Elderly gravida women (or advanced maternal age) is defined as maternal age of 35 years or greater at the time of delivery. It has important consequences for both mother and baby. These women frequently request information regarding the likely outcome of their pregnancy.

Risk to the mother: Increasing maternal age is known to be associated with increased rates of cardiovascular diseases, diabetes, obesity, uterine leiomyoma, multiparity and previous caesarean section. During pregnancy there is an increased risk of hypertensive disorders of pregnancy, gestational diabetes, placenta praevia, abruption, caesarean delivery and maternal mortality.

Risk to the baby

Premature delivery, low birth weight, increased risk of chromosomal abnormalities in fetus, intrauterine fetal demise, fetal macrosomia, need for NICU admission and increased perinatal and neonatal morbidity are primary concerns for the baby.

Aim and objectives of the study:

- A prospective observational study to compare the maternal and fetal outcomes in elderly gravida and young gravida women at our hospital with following objectives:
  - Evaluate the risk factors associated with advanced maternal age. Analyse the relationship between maternal age and pregnancy outcomes.
MATERIALS AND METHODS

Data collection technique and tools

Inclusion Criteria
- Two groups, study group- 35 years and above, control group- 21 years to 34 years.
- Singleton pregnancy, irrespective of their parity status.
- With gestational age more than 28 weeks who delivered at our hospital irrespective of registration status.
- Patients delivering at our hospital were enrolled and eligible for participation.

Exclusion Criteria
- Patients with age less than 20 years.
- Patients with twin gestation.
- Patients with pre-existing medical, surgical risk factors not associated with advanced maternal age which can affect outcome are excluded such as, rheumatic heart disease, chronic liver disease, kidney disease, connective tissue disorder, major skeletal deformities.... Etc.

Study Design: Total 400 subjects participated in study, 200 in each group of elderly gravida and young gravida, fulfilling all inclusion criteria. It is observed that, the age group of 35 years and above compared with age group of 21-34 years, 24 pregnant women (12%) out of 200 were found to have gestational hypertension as compared to 9 pregnant women (4.5%) out of 200 in present study. Statistical analysis was done by Chi-square tests and p value calculated was 0.005 showing significant relationship between advanced maternal age and gestational hypertension in our study. When the age group of 35 years and above compared with age group of 21-34 years, 16 pregnant women (8%) out of 200 were found to have gestational diabetes mellitus on diet as compared to 6 pregnant women (3%) out of 200 in present study. Statistical analysis was done by using chi-square tests and p value calculated was 0.023 showing significant relationship between advanced maternal age and gestational diabetes mellitus on diet in our study.

When the age group of 35 years and above compared with age group of 21-34 years, 30 pregnant women (15%) out of 200 were found to have gestational diabetes mellitus on insulin as compared to 6 pregnant women (3%) out of 200 in present study. Statistical analysis was done by using chi-square tests and p value calculated was 0.001 showing significant relationship between advanced maternal age and gestational diabetes mellitus on insulin in our study. When the age group of 35 years and above compared with age group of 21-34 years, 15 pregnant women (7.5%) out of 200 were found to have intra uterine growth restrictions as compared to 8 pregnant women (4%) out of 200 in present study. Statistical analysis was done by using chi-square tests and p value calculated was 0.098 showing no significant relationship between advanced maternal age and intra uterine growth restrictions in our study. When the age group of 35 years and above compared with age group of 21-34 years, 6 pregnant women (3%) out of 200 were found to have abnormal presentation as compared to 5 pregnant women (2.5%) out of 200 in present study. Statistical analysis was done by using chi-square tests and p value calculated was 0.500 showing no significant relationship between advanced maternal age and abnormal presentation in our study. When the age group of 35 years and above compared with age group of 21-34 years, 7 pregnant women (3.5%) out of 200 were found to have pre-term delivery as compared to 3 pregnant women (1.5%) out of 200 in present study. Statistical analysis was done by using chi-square tests and p value calculated was 0.169 showing no significant relationship between advanced maternal age and pre-term delivery in our study. When the age group of 35 years and above compared with age group of 21-34 years, 0 pregnant women (0%) out of 200 were found to have post-term delivery as compared to 0 pregnant women (0%) out of 200 in present study. No statistics are computed as no post-term delivery in either groups.

When the age group of 35 years and above compared with age group of 21-34 years, 6 pregnant women (3%) out of 200 were found to have ante-partum haemorrhage as compared to 3 pregnant women (1.5%) out of 200 in present study. Statistical analysis was done by using chi-square tests and p value calculated was 0.251 showing no significant relationship between advanced maternal age and ante-partum haemorrhage in our study. When the age group of 35 years and above compared with age group of 21-34 years, 3 pregnant women (1.5%) out of 200 were found to have need of blood transfusion as compared to 5 pregnant women (2.5%) out of 200 in present study. Statistical analysis was done by using chi-square tests and p value calculated was 0.0001 showing significant relationship between advanced maternal age and LSCS in our study. When the age group of 35 years and above compared with age group of 21-34 years, 115 pregnant women (57.5%) out of 200 were found to have LSCS as compared to 63 pregnant women (31.5%) out of 200 in present study. Statistical analysis was done by using chi-square tests and p value calculated was 0.362 showing no significant relationship between advanced maternal age and need of blood transfusion in our study. When the age group of 35 years and above compared with age group of 21-34 years, 1 pregnant women (0.5%) out of 200 were found to have instrumental delivery as compared to 1 pregnant women (0.5%) out of 200 in present study. Statistical analysis was done by using chi-square tests and p value calculated was 0.751 showing no significant relationship between advanced maternal age and instrumental delivery in our study.

When the age group of 35 years and above compared with age group of 21-34 years, 3 pregnant women (1.5%) out of 200 were found to have intra-op and post-op complications as compared to 0 pregnant women (0%) out of 200 in present study. Statistical analysis was done by using chi-square tests and p value calculated was 0.124 showing no significant relationship between advanced maternal age and intra-op and post-op complications in our study. When the age group of 35 years and above compared with age group of 21-34 years, 0 pregnant women (0%) out of 200 were found to have MICU admission as compared to 0 pregnant women (0%) out of 200 in present study. No statistics are computed as no MICU admission in either groups. When the age group of 35 years and above compared with age group of 21-34 years, 0 pregnant women (0%) out of 200 were found to have maternal mortality as compared to 0 pregnant women (0%) out of 200 in present study.
No statistics are computed as no maternal mortality in either groups. When the age group of 35 years and above compared with age group of 21-34 years, 30 (15%) neonates in study group out of 200 were found to have low birth weight (<2.5kg) as compared to 8 (4%) neonates in control group out of 200 in present study. Statistical analysis was done by using chi-square tests and p value calculated was 0.001 showing significant relationship between advanced maternal age and low birth weight (<2.5kg) in our study. When the age group of 35 years and above compared with age group of 21-34 years, 3 (1.5%) neonates in study group out of 200 were found to have macrosomia (>4kg) as compared to 1 (0.5%) neonate in control group out of 200 in present study. Statistical analysis was done by using chi-square tests and p value calculated was 0.312 showing no significant relationship between advanced maternal age and macrosomia (>4kg) in our study. When the age group of 35 years and above compared with age group of 21-34 years, 57 (28.5%) neonates in study group out of 200 were found to have NICU observations as compared to 40 (20%) neonates in control group out of 200 in present study. Statistical analysis was done by using chi-square tests and p value calculated was 0.312 showing no significant relationship between advanced maternal age and NICU observations in our study. When the age group of 35 years and above compared with age group of 21-34 years, 28 (14%) neonates in study group out of 200 were found to have NICU admission as compared to 9 (4.5%) neonates in control group out of 200 in present study.

Statistical analysis was done by using chi-square tests and p value calculated was 0.001 showing significant relationship between advanced maternal age and NICU admissions in our study. When the age group of 35 years and above compared with age group of 21-34 years, 5 (2.5%) neonates in study group out of 200 were found to have APGAR score <7 as compared to 2 (1%) neonates in control group out of 200 in present study. Statistical analysis was done by using chi-square tests and p value calculated was 0.224 showing no significant relationship between advanced maternal age and APGAR score <7 in our study. When the age group of 35 years and above compared with age group of 21-34 years, 2 (1%) women in study group out of 200 were found to have intrauterine foetal death as compared to 0 (0%) women in control group out of 200 in present study. Statistical analysis was done by using chi-square tests and p value calculated was 0.249 showing no significant relationship between advanced maternal age and intrauterine foetal death in our study. When the age group of 35 years and above compared with age group of 21-34 years, 1 (0.5%) neonate in study group out of 200 were found to have neonatal mortality as compared to 0 (0%) neonate in control group out of 200 in present study. Statistical analysis was done by using chi-square tests and p value calculated was 0.500 showing no significant relationship between advanced maternal age and neonatal mortality in our study.

RESULTS

The comparison of maternal outcomes in elderly gravida versus young gravida in present study. In this present study it
is found that, Advanced maternal age is risk factor for Gestational hypertension, Gestational diabetes mellitus, low birth weight baby, NICU admissions, caesarean sections. It is not a risk factor for APH, abnormal presentation, post term delivery, macrosomia, intra or post-op complications, pre-term delivery, need of blood transfusion, instrumental delivery, IUD, low APGAR score <7, neonatal deaths, instrumental delivery, MICU- admissions and maternal mortality.

Conclusions

Maternal age should be combined with other maternal characteristics and obstetrics history when calculating an individualized adjusted risk for adverse pregnancy complications. Advanced maternal age is risk factor for Gestational hypertension, Gestational diabetes mellitus, low birth weight baby, NICU admissions, caesarean sections. It is not a risk factor for APH, abnormal presentation, post term delivery, macrosomia, intra or post-op complications, pre-term delivery, need of blood transfusion, instrumental delivery, IUD, low APGAR score <7, neonatal deaths, instrumental delivery, MICU- admissions and maternal mortality. It is also observed that, from present study that more number of woman in study group with elderly gravida required higher doses Insulin to control sugar levels in cases of GDM, while young women in control group are well managed with diet alone and required less doses of insulin. It also observed that women in study group with elderly gravida required multiple number of anti-hypertensive drugs with multiple doses in cases of gestational hypertension when compared with control group with young gravida women. As advanced maternal age is associated with obstetrics complications, woman must be counselled to conceive early to ensure a healthy maternal and foetal outcomes. Advanced maternal age predisposes women to adverse pregnancy outcomes. The findings of this study would facilitate pre-conceptional, antenatal counselling and management of these pregnant women.

REFERENCES


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