



ELDERLY PRIMIGRAVIDAE VERSUS YOUNG PRIMIGRAVIDAE IN NAJAF GOVERNORATE (PREGNANCY OUTCOME REGARDING ANTENATAL, PERIPARTUM AND POSTPARTUM OCCURRENCES)

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ABSTRACT

Background: The elderly primigravida defined as a woman who goes into pregnancy for the first time at the age of 35 years or older. This has become more common in many societies and traditionally such pregnancy regarded as a high risk pregnancy. **Objectives:** To determine and compare the pregnancy outcome in elderly primigravidae aged 35 years old and above with those of young primigravidae (less than 35 years old). **Study design:** A prospective case control study that involves comparing pregnancy (peripartum and postpartum) outcome in primigravidae aged more than 35 years old to those who are younger than 35 years old whom were admitted to Al-Zahra teaching Maternity hospital and Al-Hakeem general hospital in Najaf. **Material and Method:** Pregnant women were divided into 2 groups: the first group involved pregnant women whom age was more than 35 years old (old primigravidae /case group) and the second group which involved pregnant women with less than 35 years old (young primigravidae/control group). Both groups were delivered by either vaginal delivery or by caesarian section. A complete history was taken from each patient in form of maternal age, gestational age, any history of infertility abortion, chronic hypertension ,preeclampsia (PET), preexisting or gestational diabetes, uterine fibroid and ante partum hemorrhage ,then vital signs was measured and routine investigation in the hospital was done. **Results:** A total of 140 pregnant women were involved in this study of whom 50 were in the old primigravidae group. History of infertility was higher in the old primigravida group. No significant differences were observed between both studied groups in respect of gestational age and socio-economic status. The prevalence of chronic hypertension and the incidence of preeclampsia, intra uterine death and associated uterine fibroid were statistically higher in old primigravidae than young primigravidae. Other complications such as diabetes and ante partum hemorrhage were not significantly different between the two groups. Regarding mode of delivery; caesarean section was indicated in a significantly higher proportion of old primigravidae than that of young primigravidae. **Conclusion:** Elderly primigravidae have higher risk for developing of some of pregnancy associated complications requiring special care and timely recognition for better outcome.

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INTRODUCTION

Women who become pregnant at 35 year age or more for first time in their lives are referred to as elderly primigravidae (EPG). Nowadays there is a global trend toward delaying parenthood.

The availability of birth control is partly responsible for this trend although there are other social and cultural factors that are responsible for delaying pregnancy such as educational level, lack of child care, low benefit levels, housing uncertainty and many other issues (Cooke, 2010 and Seoud, 2002).

Being pregnant for first time at an older age is associated with different risks to fetus and mother. These involve miscarriage, stillbirth, post-term pregnancy, ectopic pregnancy, hypertensive disorders, gestational diabetes and genetic risks where the fetus is at an increased risk of developing Down syndrome and increased maternal mortality (Berkowitz, 1990; Orji, 2004 and Cleary, 2005). In this study we compare the outcome of pregnancy in EPG to that of young primigravida (YPG) and compare the results to other published studies to know the predominant risks in our society.

MATERIALS AND METHODS

This is a case control study held in Al-Zahra maternity teaching hospital and Al-Hakeem general hospital in Najaf/Iraq from 1st of April 2016 to 30th of October 2016. All pregnant women with age of 35 year or more whom were admitted to the labor room at morning from each Sunday (Al-Zahra hospital) and Monday (Al-Hakeem hospital) of every week in the study period (the days were the researchers involved in duty in labor room) were regarded as the case group and compared to a control group whom in this case were any primigravida with less than 35 year old whom were admitted in the same morning to the labor room (whether delivered vaginally or by caesarean section). All patients agreed to participate in this study by verbal consent and then complete history from each patient on a specially prepared data sheet was obtained; including: maternal age, gestational age, any history of infertility, abortion, chronic hypertension, preeclampsia, preexisting or gestational diabetes, uterine fibroid, twin pregnancy, intra uterine death, fetal congenital anomalies and ante partum hemorrhage. Then vital signs were measured and routine investigations were done in the form of blood group and RH, complete blood picture, RBS, GUE for

albumin, liver function test with clotting study and serum urate, and renal function test in case of pre-eclampsia. The pregnant ladies were divided into two groups; those who were below 35 year of age (young primigravidae YPG) and those who were at or above 35 year of age (elderly primigravidae EPG). Then statistical analysis and comparison of the occurrence of the above mentioned variables in both groups was done to evaluate mostly the effect of age as a risk factor for these occurrences.

Statistical Analysis: SPSS for windows version 20 (Chicago, IL, USA) was used for data analysis. The Independent student's t-test was used for variables measured as Mean \pm SD. A P value of <0.05 was considered significant and a value of <0.01 was considered highly significant.

RESULTS

A total of 140 patients were collected in the study period; of whom 50 (35.71%) were EPG and 90 (64.29%) were YPG. History of infertility was highly significant (P value <0.001) in the EPG group (48%) versus 5.5% in the young group. Also the BMI was significantly higher in the EPG group (P value <0.05). There was no statistical difference between both groups in regard of gestational age or socio-economic status as shown in Table 1. In regard of maternal morbidity whether primary (chronic hypertension or uterine fibroid) or pregnancy induced the results are shown in table 2 which shows a significant occurrence of chronic hypertension, preeclampsia and uterine fibroid in the EPG group and no significant association of diabetes or antepartum hemorrhage. Caesarean section was the mode of delivery in 40 cases (80%) of the elderly PG group while it was indicated in 20 cases (22.2%) of the young PG group.

Table 1. Maternal characteristic comparing young primigravidae with the old primigravidae

Variable	YPG N=90	EPG N=50	P Value
Age (yrs) Mean \pm SD	23.14 \pm 4.20	36.67 \pm 1.21	
Min.-Max.	14- < 35	35-42	
BMI Mean \pm SD	23.60 \pm 3.50	25.14 \pm 3.12	0.011
Min.-Max.	19-30	20-33	
GA (wks) Mean \pm SD	36.82 \pm 3.62	37.04 \pm 3.43	0.729
Min.-Max.	27-42	27-41	
SES Employed	18(20.0%)	14(28.0%)	0.246
Unemployed	72(80.0%)	36(72.0%)	
History of Infertility	5(5.56%)	24(48.0%)	<0.001

BMI body mass index, GA gestational age, SES socioeconomic status.

Table 2. Maternal Complications comparing young primigravida with the old primigravida women

Condition	YPG	%	EPG	%	P value	OR(95%CI)
Chronic Hypertension	0	0	13	26	<0.001	0.014(0.001-0.335)
Preeclampsia	15	16.67	16	32	<0.01	0.425(0.188-0.957)
Gestational Diabetes	4	4.44	4	8	0.373	0.534(0.145-2.126)
Uterine fibroid	1	1.11	8	16	<0.001	0.059(0.0070.487)
APH	10	11.11	3	6	0.311	1.958(0.513-7.745)
Intrauterine death	4	4.44	7	14	0.024	0.285(0.079-1.029)

YPG young primigravida, EPG elderly primigravida, APH Ante-partum Hemorrhage, OR odds ratio, CI confidence interval

Table 3. A comparison of the indication for caesarean sections between the two studied group

Indication for C/S	YPG	%	EPG	%	P value
PET with Unfavorable Cervix	5	5.56	16	32	<0.01
CPD	4	4.44	7	14	0.024
Breach presentation	11	12.22	8	16	0.542

Table 4. Comparison of intra partum and peripartum occurrences between the EPG and the YPG

Condition	YPG	%	EPG	%	P value	OR(95%CI)
PPH	9	10	5	10	0.999	1.00(0.315-31.657)
IUGR	5	5.56	6	12	0.216	0.431(0.124-1.492)
Preterm labor	18	20	6	12	0.176	1.833(0.676-4.469)
Congenital Anomaly	2	2.22	2	4	0.683	0.545(0.074-3.995)
Operative Vaginal Delivery	3	3.33	0	0	0.246	4.005(0.202-79.162)

PPH Post Partum Hemorrhage, IUGR intra uterine growth retardation

Unfavorable cervix, preeclamptic toxemia and cephalo-pelvic disproportion as indications for caesarean section were significantly higher in the elderly PG group than the young PG one while the difference in the indications was insignificant in regard of breech presentation as shown in table (3).

PET preeclamptic toxemia, CPD cephalopelvic disproportion

In regard of the peripartum and postpartum events; despite there was higher rate of occurrence of postpartum hemorrhage, intra uterine growth retardation, preterm labor and congenital anomalies in the EPG group but the difference was statistically insignificant (Table 4). The rate of operative vaginal delivery was higher in the YPG group but also it was statistically not significant.

DISCUSSION

The adverse effects of being pregnant at an age older than 35 years has been shown by multiple studies (Joseph, 2005; Tabcharoen, 2009; Treacy, 2006 and Ziade, 2000), but it was not documented in our local hospitals. So we hereby report the incidence and prevalence of some occurrences that happened with such a pregnancy and compare them to that of other published studies. The mean age of elderly PG in our study was 36.67 year with a higher and significant prevalence of primary infertility in the elderly PG group (48% vs 5.56%). Also there was no significant statistical difference in socioeconomic status between the 2 groups (P value 0.246) in contrast to finding of Bayrampour (Bayrampour, 2011), who showed in his study that ladies with advanced age at pregnancy were more employed and have higher income than those at young age group. The two above mentioned findings indirectly reflect that women in our society not deliberately postpone pregnancy for being employed as the situation in western and developed countries where they do so because of career pursuing among other reasons although this finding needs further community based study to be solidly documented. Preeclampsia documented in 32% of EPG group which was significantly (P value 0.021) higher than that in the YPG group (16.67%); a result that is much higher than that of Ekblad (Ekblad, 1994), which was 7% with no obvious explanation for this discrepancy. Chronic hypertension was significantly more prevalent in the EPG than the YPG, a finding that was also documented by Tabcharoen (Tabcharoen, 2009) and Ziadeh (Ziadeh, 2001). This might be attributed to the higher BMI (Table 1) and more advanced age of the EPG where both these factors are associated with increased risk of hypertension. Also incidence of gestational diabetes was higher in the EPG group than the YPG group but the difference did not reach a statistical significance as reported by the same authors (Tabcharoen, 2009 and Ziadeh, 2001). Cleary (2005) and Ziadeh (2001) found a significant association between advanced maternal age and congenital anomalies, low birth weight and preterm labor.

This significant association was not found in this study as well as by Bayrampour (2011). These differences in our study might be explained by the younger mean age in our group (which make these outcomes comparable in both groups) and the smaller sample number. Presence of fibroid was significantly higher in the EPG group (16% vs 1.1%) as shown in Table 2. The higher prevalence of fibroid in this group of primigravidae was also reported by Eleje *et al* (Eleje, 2014) and Naqvi (Naqvi, 2004); although the last author reported a lower prevalence in the EPG group (9.61% vs 2.56% in YPG) but still the difference was significant. Caesarean section was indicated in 62% of the elderly PG group which was comparable to Pandit (Pandit, 2011), rate of 76.66% but much higher than that of Ekblad (Ekblad, 1994), which was 36%. This high rate in our study was as mentioned earlier due to the prevalence (32%) of pre-eclampsia with unfavorable cervix in the EPG group beside other indications (Table 3) and it also reflects the low threshold for choosing C/S as the preferred mode of delivery for EPG due to concerns about fetal wellbeing.

The incidence of postpartum hemorrhage was not statistically significant between the 2 studied groups (P value 0.999), a result which was not in accordance with Tabcharoen *et al.* and Treacy *et al* where PPH was more in the EPG group, this might be attributed in part to a higher age of pregnant ladies in their studies with its associated effects on body physiologic reserve and response and in part due to the smaller number of enrolled patients in this study. By calculating the total number of events that were associated with pregnancy in EPG they would be 77 with a rate of 1.54 for each lady in the group which was double the rate of the YPG group which was 0.78 (total of 71 occurrences in 90 ladies) which reflects the higher risks for being pregnant in the elderly primigravidae group.

Conclusion

The prevalence of some of pregnancy associated morbidity become higher with advanced age (35 year and above) at conception thus this group of ladies requires better antenatal care for better outcome for both the mother and the baby.

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