

ELDERLY PRIMIGRAVIDA AND PREGNANCY OUTCOME

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ABSTRACT

Objective: To examine the obstetric performance of elderly primigravida aged 35 years or over, compared to primigravida between 20 and 25 years of age.

Methods: Over a six-year period (1994-2000), the obstetric performance of 172 primigravida aged 35 years or over, was compared to 190 randomly selected young primigravida between 20 and 25 years of age, who were managed during the same period in the same hospitals.

Results: Elderly primigravida ≥ 35 years old had more common complications with significant statistical differences for chronic hypertension ($p < 0.01$), superimposed pre-eclampsia, cesarean section rate ($p < 0.01$), deliveries instrumental ($p < 0.05$), and preterm labor ($p < 0.05$), when compared with the primigravida between 20 and 25 years of age.

They also showed greater tendency to antepartum hemorrhage, post partum hemorrhage, fetal distress, breech and transverse lie, diabetes mellitus, low birth weight, fibroids, deliveries instrumental, 3rd degree tear, induced labor and low Apgar score, but with no statistically significant difference.

No other differences in obstetric and neonatal outcomes were found between the two groups.

Conclusion: Elderly primigravida aged 35 years and above had more complicated antenatal and labor courses than young primigravida between 20 and 25 years of age. On the other hand, the neonatal outcomes of the two groups were comparable.

Key words: Primigravida, Pregnancy, Obstetric complications.

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Introduction

The term 'elderly primigravida' is often used loosely in clinical practice, but in 1958 the Council of the International Federation of Obstetricians and Gynecologists adopted a definition specifying the age of 35 years or more.

Although one study considered the woman of 25 years and above in her first pregnancy as an "elderly primigravida"⁽¹⁾, others introduced the term "mature primigravida" as a suitable alternative to elderly primigravida⁽²⁾.

Many studies showed this group of women to be at high risk of complications including instrumental deliveries, malpresentation, malposition, prolonged labor, cesarean section rate, induction of labor, pregnancy-induced hypertension, diabetes mellitus, ante and post partum hemorrhage⁽³⁻⁸⁾.

Apart from the increased incidence of the cesarean section in elderly primigravida, other studies have indicated no additional risk with advancing age in this group of women, and should not be managed as high risk,

and conservative management of old primigravida with modern perinatal management is justified and very effective⁽⁹⁻¹¹⁾.

The purpose of our study was to examine the pregnancy outcome in elderly primigravida and to compare it with that of the young primigravida.

Methods

The records of all deliveries at Queen Alia and Prince Hashem hospitals between 1994-2000 were reviewed and analyzed.

A total of 44282 deliveries, of which 11336 (25.6%) were primigravida, and 187 (1.65%) of them were ≥ 35 years of age.

Of the 187 women identified, 13 were excluded from the study because their files were missing, in addition to two women with multiple pregnancies.

For comparative purposes, obstetric and perinatal parameters that included antenatal labor, delivery, post partum factors and neonatal outcomes were collected for

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both the elderly primigravida ≥ 35 years and young primigravida 20-25 years.

The 172 elderly primigravida were matched for social class (based on the occupation of the woman's partner) with 190 primigravida between 20-25 years.

The matched controls were chosen randomly without knowledge of their pregnancy outcomes.

For each study patient the next woman aged 20 to 25 years who was enlisted in the study period was the control patient.

All had originally booked for care at both hospitals.

The two groups in the study were therefore the 172 elderly primigravida (study group) and the 190 matched young primigravida (control group).

Chi-square (χ^2) test was used to determine the significance of differences between the two.

Results

The patients were divided into two groups; the elderly primigravida study group (n=172) and the young primigravida control group (n=190)

The age distribution of elderly primigravida is shown in Table I.

Antenatal Factors (Table II)

Chronic hypertension defined as blood pressure persistent more than 140/90 mmHg throughout pregnancy was more common in the study group, 23% versus 3% in the control group; the difference was statistically significant ($p < 0.05$).

On the other hand pre-eclampsia defined as blood pressure 140/90 mmHg or more, after the 20th week of pregnancy plus some proteinuria, was more common in the control group; 20% versus 8.7% ($p < 0.05$).

Of the patients with chronic hypertension who subsequently developed super-imposed pre-eclampsia, there were two cases (out of 23) or 8.7% of this subgroup and 1.2% of the whole study group.

In the control group, five patients out of the six patients in this subgroup developed super-imposed pre-eclampsia a ratio of 87%, the difference was highly significant.

There were four cases of diabetes mellitus in the study group (2.3%) but only one case in the control group (0.52%) however; this difference was not statistically significant. Fibroids were found in five cases in the study group but none was found in the control group, again this difference was found non-significant.

There was no significant difference in the incidence of antepartum hemorrhage

More than 90 percent of cases in both groups were of low social class.

Labor, Delivery and Post Partum Factors (Table III)

The most striking difference between the study and control groups was in the cesarean section rate; 45 (26%) in the study group compared to 19 (10%) in the control group ($P < 0.01$).

There was a higher incidence of both the elective and

emergency section in the study group than in the control group.

The two most common indications for the 18 elective sections in the study group were breech presentation in 8 and maternal age in 7.

Four of 7 elective cesarean sections in the control group were due to breech presentation. The two most common indications for 27 emergency cesarean sections in the study group were fetal distress in 11 and failure to progress in 10.

Of the 12 emergency cesarean sections in the control group, 5 were indicated to progress and 4 were for fetal distress.

Fetal distress was more often diagnosed in the study group (24 = 14%) than in the control group (15 = 8%), but without a significant difference.

The basis for the diagnosis was similar in both groups, depending on evidence of late deceleration and persistent bradycardia (< 100 fetal heart beat / minute).

Continuous electronic fetal heart monitoring was significantly more often in the study group than in the control group. (The policy in our hospitals is to use continuous fetal heart monitoring in labors believed to be at high risk).

In the control group there were eight breech presentations, four were delivered by elective cesarean section, one by emergency cesarean section because of cord prolapse, and three were delivered vaginally.

In the study group there were 15 breech presentations, eight were delivered by elective cesarean section, three by emergency cesarean section because of fetal distress, and vaginally.

For women with vaginal delivery, the episiotomy rate showed no difference between the two groups.

There was one woman in the study group who had a third degree perineal tear, and none in the control group.

There were no significant differences between the two groups in the incidence of postpartum manual removal of the placenta, induced labor, post partum hemorrhage and breech or transverse lie.

Neonatal Factors (Table IV)

The rate of preterm < 37 week deliveries, was higher in the study group than in the control group; (12 (7%) compared to 4 (2%), $p < 0.05$).

Small for date (< 2500 gram), still birth, neonatal death, low Apgar score at one minute and five minutes, all were more common in the study group but without significant differences.

Congenital malformations occurred in one infant in each group.

Discussion

The incidence of primigravida was 27.2%, 1.6% of them were old primigravida of more than 35 years old.

This proportion seems to be low compared to other studies⁽⁵⁾, which reported an incidence of 24.9% of primigravida above 40 years old. This is related to the recent trends in industrialized countries towards delayed

child bearing age of marriage that reflect the increasing commitment of women to prolonged training and professional employment ⁽¹²⁾.

The increased rate of chronic hypertension found among the elderly primigravida is more likely to be due to their age, then the higher rate of pre-eclampsia found among the younger age group, may simply be a complementary finding.

It is possible to hypothesize that this age – related risk of cesarean section is a result of physicians behavior related to anxiety about pregnancy outcome in the older women.

Nulliparous women of advanced maternal age have reached their first pregnancy at the time of the age – related decreasing fertility, often after years of infertility consequently these pregnancies are often regarded as “Premium pregnancies “ by physician and patient alike. This may, in turn, influence decision making in an attempt to reduce the risks of adverse outcomes.

This study cannot answer the question of whether cesarean section can accomplish this risk reduction.

It is equally possible that we have failed to identify age - related factors that place a woman at a higher risk of cesarean section and account for the age – related risk of the cesarean section found in this study.

Therefore the feeling of the obstetrician that pregnancy in this group of women is particularly precious, contributes strongly to the higher rate of interventions of labor and consequently to the cesarean section rate.

Maternal age was a strong indication recorded for 7 of 18 elective cesarean section done in the elderly primigravida.

So our data have confirmed a significantly higher rate of cesarean section (elective and emergency), chronic hypertension, superimposed pre-eclampsia and preterm labor.

Apart from preterm babies, there were no significant differences in the neonatal outcomes, which included small for date, stillbirth, neonatal death and congenital malformations.

Table I. Age distribution of the study and control groups

Age at 1 st antenatal visit	Study group n = 172		Control group n= 190	
	n	%	n	%
20-25	-	-	190	100
35- 36	98	57	-	-
37- 38	52	30	-	-
39- 40	15	9	-	-
>40	7	4	-	-

Table II. Antenatal factors among the study and control groups

Variable	Study group (n=172)		Control group (n=190)		Significance
	n	%	n	%	
Chronic hypertension with superimposed pre-eclampsia	23	13.4	6	3.2	P<0.01 S
	2/23	8.7	5/190	2.6	P<0.01 S
Pre-eclampsia	15	5.7	38	20	P<0.05 S
Antepartum hemorrhage	5	2.9	5	2.6	NS
Diabetes mellitus	4	2.3	1	0.5	NS
Fibroid	5	2.9	0	0	NS

S = Significant: - p < 0.05

NS = Not significant

Table III. Labor, delivery and postpartum factors.

Variable	Study group (n=172)		Control group (n=190)		Significance
	n	%	n	%	
Cesarean section					
Total no	45	26.2	19	10	P<0.01 S
Elective	16	10.5	7	3.7	P<0.02 S
Emergency	27	15.7	12	6.3	P<0.01 S
Instrumental deliveries; forceps and vacuum	18	10.5	10	5.26	P<0.05 S
Fetal distress	24	14	15	7.9	NS
Breech	15	8.7	8	4.2	NS
Transverse lie	3	1.7	2	1.05	NS
Episiotomy	127/127	100	171/171	100	NS
Third degree vaginal tear	1/127	0.8	0/171	0	NS
Post partum hemorrhage	11/127	8.7	9/171	5.3	NS
Manual removal of placenta	3/127	2.4	4/171	2.3	NS
Labor induced	72	14.9	67	53.3	NS

S = Significant = p<0.05

NS = Not significant

Table IV. Neonatal factors

Variable	Study group (n=172)		Control group (n=190)		Significance
	n	%	n	%	
Gestation at delivery (weeks) <37	12	7	4	2.1	P<0.05 S
Low birth weight < 2500 gm	14	8.1	9	5.2	NS
Stillbirth	2	1.2	2	1.0	NS
Neonatal Death	3	1.8	2	1.0	NS
Congenital Malformation	1	0.6	1	0.5	NS
Low Apgar Score					
< 4 at 1 min	10	5.8	5	2.6	NS
< 7 at 5 min	3	1.75	1	0.5	NS

S = Significant ≤ 0.05

NS = not Significant

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