ORIGINAL ARTICLE

Performance of Elderly Primigravidae in Kelantan

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Summary

The obstetric performance of 59 elderly primigravidae delivering at the University Hospital, Kelantan, between January 1, 1987 and December 12, 1988 is compared with that of 60 young primigravidae delivering during the same time period. The total number of deliveries during this period was 16,284, and the predominant ethnic group was Malays. Apart from an increased incidence of preeclampsia (23.7% vs. 13.3%), breech presentation (6.78% vs. 3.33%) and Caesarean sections (74.6% vs. 10%) among the study group, there were no other statistically significant obstetric complications. Majority of Caesarean sections were done as emergency procedures, the principal indications being poor progress of labour and foetal distress. The neonatal outcome (in terms of birthweight, gestational age and breastfeeding at discharge) was similar in the two groups. For most women in both groups this was the first marriage, though a higher proportion in the study group had an interval of more than two years between marriage and childbirth.

Key Words: Elderly primigravida, Genetic diagnosis, Obstetric performance

Introduction

The term "elderly primigravida", coined by Waters and Wagers[1] more than four decades ago, has been traditionally used to define a primigravida who is 35 years of age or older. This definition was formally adopted by the Council of the International Federation of Obstetrics and Gynaecology in 1985. Historically, there has been a place for this term when women began their childbearing in their teens and often did not live past their forties. Today, the label of "elderly" primigravida seems very offensive and a better choice of term may be "mature" primigravida[2]. Studies over several decades have shown this group of women to be at high risk for complications like hypertension, glucose intolerance, fibroids, malpresentations, instrumental deliveries, growth retarded babies and impaired lactation. Rightly, many of the current standard textbooks in obstetrics label elderly primigravidae as high risk[3,4].

In Malaysia, and more specifically the east coast, matrimony and motherhood are considered high priority lifestyles, making the elderly primigravida an unusual entity. Literature is relatively silent on the reasons for delayed marriage and childbearing among women here. This study was carried out in order to elucidate the matrimonial background and to identify the obstetrical complications in this group as compared to their younger counterparts.

Materials and Methods

A retrospective case control study of 119 primigravidae was conducted over a two-year period between 1.1.1987 and 31.12.1988 at the University Hospital, Kelantan, Malaysia. All 50 elderly primigravidae (aged 35 years or more) delivering at this time formed the study group, while 60 primigravidae aged between 20 and 25 years and delivering soon after the study case formed the control group. The cases were collected

after delivery and case notes were screened for age at delivery, duration of marriage, interval between marriage and pregnancy, and reasons for delayed marriage. Main outcome measures recorded were medical, antenatal and intrapartum complications, mode of delivery (whether spontaneous vaginal, instrumental or Caesarean), baby weight, apgar score, fetal outcome and postnatal complications (such as post partum haemorrhage).

Results were analysed and compared using the Chi square test and students "t" test and p value less than 0.05 was taken as significant. In each case the odds ratio (OR) and confidence interval for odds ratio (CI) was calculated using the formula described by Fleiss[5].

Results

Both the study and control groups were evenly matched in terms of demographic data (Table I). Eighty-three per cent in the study group and 85% in the control group were Malay. Twenty-seven per cent and 28.33% respectively from the two groups came from the upper and middle socio-economic group. The mean height and weight at booking did not differ significantly between elderly and young primigravidae. The average height was 150.2+/-4.6 cms. and 151.4+/-3.8cms. respectively for the two groups (p=.14, not significant). The average weight at booking was 62.8+/-3.5kg and 59.6+/-3.9kg respectively (p=.21, not significant).

In both the groups, for the majority of the primigravidae this was the first marriage (Table II). There were instances of third and fourth marriage in the study group but no one was married more than four times in both groups. A significantly higher proportion of women in the study group (49.14%) had delayed their first pregnancy for more than two years after marriage (p=0.019, OR 0.41, CI 0.18-0.93).

In the study group, 88.13% presented between 35 and 39 years, and there were no women with first pregnancy after 45 years.

Overall antenatal complication rate in the study group was significantly higher than the control group (p=0.002, OR 3.14, CI 1.39–7.14). (Table III). Nearly

Table I
Demographic data

Variable	Study group n=59 (%)	Control group n=60 (%)	p value
1. Race			
Malay	49 (83.05)	51 (85.00)	0.77
Chinese	9 (15.26)	7 (11.66)	
Indian	0	1 (1.67)	
Others	1 (1.69)	1 (1.67)	
2. Social class			
I & II	3 (5.08)	9 (15.00)	
III	13 (22.03)	8 (13.33)	
IV & V	46 (72.89)	43 (71.67)	0.42
Average height (cms.)	150.2 +/–4.6	151.4+/–3.8	0.14
Average weight (kg)	62.8+/–3.5	59.6+/–3.9	0.21

Table II
Background data

Variable	Study group n=59 (%)	Control group n=60 (%)	p value
Number of marriages			
First	51 (86.40)	56 (93.33)	0.21
Second	4 (6.80)	4 (6.67)	
Third	3 (5.10)	0	
Fourth	1 (1.70)	0	
Interval between marriage & pregnancy			
< 2 years	30 (50.85)	43 (71.67)	0.019
2–5 years	17 (28.81)	12 (20.0)	
> 5 years	12 (20.34)	5 (8.33)	
Age at booking (years)			
20–25		60 (100.0)	<.0001
35–39	52 (88.13)		
40–44	7 (11.87)		
>45	0		

Table III
Antenatal factors

Complication	Study group n=59 (%)	Control group n=60 (%)
Hyperemesis	2 (3.39)	3 (5.0)
Twins	1 (1.69)	1 (1.66)
PIH	14 (23.73)	8 (13.33) *
Eclampsia	0	1 (1.66)
Anaemia	3 (5.08)	2 (3.33)
Breech presentation	4 (6.78)	2 (3.33)
Placenta praevia	1 (1.69)	1 (1.66)
Abruptio placentae	1 (1.69)	0
Threatened abortion	2 (3.39)	3 (5.00)
Diabetes mellitus	2 (3.39)	0
Preterm labour	2 (3.39)	2 (3.33)
Unstable lie	3 (5.08)	0
Fibroids	4 (6.78)	1 (1.66) **
Total	39 (66.08)	23 (40.0) ***

* *p = 0.14, OR = 2.02, CI 0.71 – 5.86*
** *p = 0.16, OR = 4.29, CI 0.43 – 104.02*
*** *p = 0.002, OR = 3.14, CI = 1.39 – 7.14*

twenty-four per cent of elderly primigravidae developed pregnancy induced hypertension (PIH), as compared to 13.33% of young primigravidae (p=0.14, OR 2.02, CI 0.71–5.86). For fibroids and breech presentation also the odds ratio was more than 1 for the study group. The incidence of anaemia, placenta praevia, threatened abortion and multiple pregnancy was similar in both study and control groups.

The frequency of the various modes of delivery in the two groups can be seen in Table IV. The most striking difference was in the Caesarean Section rate which was 74.6% for the study group and 10.0% for the control group (p<0.0001, OR = 26.4 RR = 4.05 CI 2.56–6.41). Majority of Caesareans in both groups were done for emergency indications. The commonest indication was poor progress of labour, followed by pre eclampsia and foetal distress. Twice as many women in the study group had instrumental delivery (forceps or vacuum), and it was noted that whereas 83.3% of younger women had normal vaginal delivery, only 11.8% of women from the study group delivered without any operative intervention. There was no case with post partum haemorrhage (PPH) in either group.

As regards the neonatal outcome, there were two cases of preterm delivery in both groups (Table V). In the study group, one occurred in a patient at 29 weeks of gestation who came to the labour room with os fully dilated, prolapsed cord and breech presentation and soon thereafter delivered a stillborn baby weighing 1.0 kg. In the other case, a 37-year-old woman at 30 weeks gestation came in established labour and delivered a 1.1kg baby who died 24 hours later due to respiratory distress syndrome. The average birth weight and incidence of small for date babies did not vary significantly between the two groups.

Eighty-three per cent of elderly primigravidae and 73.33% of the younger women showed a willingness to breastfeed their babies. Although the odds ratio was higher in favour of women in the study group, this difference was not statistically significant (p=0.19, OR=1.78, CI=0.67–4.76).

Table IV
Delivery factors

Variable	Study group n=59 (%)	Control group n=60 (%)
Mode of delivery		
Vaginal	7 (11.8)	50 (83.33)
Instrumental	8 (13.6)	4 (6.67)
Caesarean	44 (74.6)	6 (10.0) *
Indication of Caesarean		
elective	14 (31.8)	2 (33.33)
Pre eclampsia	8 (18.21)	1 (16.66)
CPD	2 (4.54)	1 (16.66)
Subfertility	2 (4.54)	0
Diabetes	2 (4.54)	0
Emergency	30 (68.2)	4 (66.67)
Poor progress	16 (36.4)	2 (33.33)
Foetal distress	7 (15.9)	2 (33.33)
Failed forceps	2 (4.54)	0
Others	5 (11.4)	0

* *p<0.0001, OR = 26.4, CI 8.63–85.40*

Table V
Neonatal factors

Variable	Study group n=59 (%)	Control group n=60 (%)
Gestation (weeks)		
<34	2 (3.39)	1 (1.67)
34–37	0	1 (1.67)
37–40	45 (76.27)	40 (66.66)
>40	12 (20.34)	18 (30.0)
Birthweight (gms.)		
1000–1499	1 (1.69)	0
1500–1999	1 (1.69)	1 (1.67)
2000–2499	11 (18.64)	14 (23.33)
2500–2999	41 (69.49)	36 (60.0)
3000–3499	3 (5.11)	5 (8.33)
>3500	2 (3.38)	4 (6.67)
Stillbirth	1 (1.69)	–
Neonatal death	1 (1.69)	–
Down's syndrome	1 (1.69)	–
Breastfeeding at discharge	49 (83.05)	44 (73.33) *

** p = 0.19 (not significant), OR = 1.78, CI 0.67 – 4.76*

Discussion

During the study period there were 16,284 deliveries at the University Hospital in Kelantan. Of those, the total number of primigravidae delivering were 5,862 (35.9%). Fifty-nine women delivered their first child after 35 years of age, thus the incidence of elderly primigravidae delivering at our hospital was 0.36%. This figure is half of that quoted in Western literature[4], and could be attributable to early marriages, resistance to contraceptive usage and lack of motivation for career advancement among majority of the women here.

Though Malaysia is a multiracial society, the predominant ethnic group, specially in Kelantan state is Malay, and this is reflected in our study as well. Thus it is difficult to ascertain whether there was any racial difference in the obstetric performance. The two groups were essentially similar with respect to height, weight, race and social class. Western studies[6] have shown increasing voluntary postponement of first pregnancy among women in social class 1 and 2 (professional and managerial women) but this fact could not be highlighted in our study.

Significantly more women in the younger age group conceived within 2 years of marriage and this could be due to high fertility and fecundity rates in this age group[7]. A high proportion of elderly women had in fact postponed their first pregnancy to 5 years after marriage, and the usual reason given was for pursuit of career advancement.

In a society where matrimony and motherhood are considered a priority lifestyle, it is important to look for the professional and matrimonial background of women postponing marriage. Unlike in the West, single parentage, premarital sex and contraceptive usage is relatively low and this could be linked to socio-cultural taboos in all three ethnic groups. Arranged marriages still form the commonest practice in majority of cases in this region. For most women it was the first marriage, and the reason given for postponement was lack of opportunity to meet the right partner of equal educational status and social standing.

We found a higher incidence of overall antenatal complications more specifically malpresentation, fibroid and pregnancy induced hypertension (PIH) among the elderly primigravidae. This has been reported in earlier series[8,9] and it has been theorized that the increased rate of chronic hypertension among elderly primigravidae may be due to their heavier build or due to their age alone.

The average rate of Caesarean section in our hospital is 9.5%, and the rate among the younger primigravidae conformed to this. We found a markedly higher rate of interventions in labour among the elderly group, which previous studies have also noted[8-10]. Although specific obstetric indications for Caesarean section were usually involved, the impression often gathered is that obstetricians worldwide treat the elderly primigravidae as a special group with precious pregnancy and that future pregnancy outcomes would be questionable.

Instrumental delivery was twice as common in the study group as compared to the control group. This

could be secondary to prolonged labour due to relative loss of elasticity of soft and bony passages of the elderly primigravidae. In addition, there may be a reduced resilience to cardiopulmonary diseases in this group, leading to rapid exhaustion and poor maternal effort in the second stage of labour.

The incidence of Down's syndrome increases with advancing maternal age, reaching 1:365 births in mothers who are 35 years of age and 1:32 at the age of 45 years[11,12]. The frequency of all kinds of chromosomal abnormalities in substantially higher in the elderly primigravida. Given prenatal diagnosis (chorion villus biopsy and early amniocentesis), women in this age group can be provided with accurate information. This may permit them the flexibility to make a reasonable and prudent decision, although in the Malaysian context this issue has to be addressed with some reservation.

Neonatal outcomes were not appreciably different from the infants of younger primigravidae. Overall data from many studies[6,13] echoes this good news for women in their mid-thirties who are contemplating their first pregnancy. Kirz *et al*[2] have shown that high quality antepartum care provided to women in this age group leads to favourable outcome in the infants.

Time and again, the influence of maternal age on perinatal outcome has been studied. We found the overall complication rate during antenatal period to be higher in the elderly primigravidae as compared to their younger counterparts, particularly with respect to pre eclampsia and breech presentation. Caesarean section and instrumental deliveries were definitely commoner in the elderly primigravidae, though ultimately the neonatal outcome was similar in both groups. Changing trends in women's attitudes towards career and professionalism are reflected in a growing number of women marrying late and postponing their first pregnancy. Although seen long ago in Western countries, this is a relatively new phenomenon here. This study confirms that there is no need for obstetricians to discourage women from postponing their pregnancy, should they wish to do so.

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