THE ELDERLY PRIMIGRAVIDA – EVALUATION OF 90 CASES

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ABSTRACT

A prospective study was carried out on ninety consecutive elderly primigravidae out of a total of 13,858 deliveries between 1983 to 1985. The aim of the study was to examine the reasons for postponement of childbearing beyond 35 years, the risks alleged to complicate pregnancy at this age, the obstetric performance and foetal outcome. The use of the term 'mature primigravida' as a suitable alternative to 'elderly primigravida' is emphasised. Pregnancy-induced hypertension was the commonest antenatal complication, and together with prolonged labour, the commoner indications for abdominal delivery. The caesarean section rate was 54.4 per cent. There were no maternal deaths. The perinatal mortality rate however, was much lower than that of the hospital population.

Keywords: Elderly Primigravida, obstetric outcome.

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INTRODUCTION

The elderly primigravida is looked upon as a special obstetric problem where pregnancy and labour require close supervision and vigilance. The designation "elderly primigravida" is used extensively in the obstetric literature. The term was defined in 1958 by the Council of International Federation of Obstetrics as one aged 35 or more at first delivery. This category of mothers have been most appropriately placed in the 'high risk' group because of the decline in conception with advancing age. The study was undertaken to examine the risks which have been alleged to complicate pregnancy on the basis of age and to study the obstetric performance of these mothers in the intrapartum period.

MATERIALS AND METHODS

A prospective analysis was made of primigravidae over the age of 35 who delivered at the Muar District Hospital, Johore between 1 Jan 1983 to 31 Dec 1985. There were a total of 90 mothers, and these patients were managed in the 'high risk' clinic of the hospital under the supervision of a Registrar or Consultant. Antenatal complications were identified and management meted out as they were encountered. All the patients had the following investigations performed on first encounter viz. Haemoglobin, total white cell count, blood urea, serum electrolytes, urine microscopy and culture, blood typing and rhesus status, VDRL, and hepatitis B screening. Ultrasonography was done only after the latter part of 1984, when such facilities were made available at this hospital. Active management of labour was carried out on admission at term. A paediatric evaluation was done on the infants born to these mothers.

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RESULTS

Demographic Data:

There were a total of 13,858 deliveries during the three year period. Out of these 4654 were primigravidae (33.5%) (Table I). Ninety patients (0.65%) were above 35 years and delivered 90 singleton babies.

Table II shows the ethnic group distribution amongst elderly primigravidae. The Malays constituted the majority (65.6%). A total of 7135 (51.5%) Malays, 6169 (44.5%) Chinese and 554 (4.0%) Indians delivered at this hospital over the period of study.

Table III shows the age at marriage. A majority of them married between 35 and 38 years. One Malay lady married at 45 years and was pregnant within six months. A Chinese lady who married at 22 years remained subfertile for 15 years before she conceived at 37 years. The period between marriage and successful delivery is shown in Table IV. A total of 55 (61.2%) patients delivered within two years of marriage. The incidence of involuntary infertility varied from 2 to 15 years in thirty five (38.8%) patients.

Complications of pregnancy

Pregnancy induced hypertension was the commonest complication (Table V). This was present in 29 (31.3%) patients. Two of these eventually developed

Table I
ELDERLY PRIMIGRAVIDAE BY INCIDENCE

Year	Total Deliveries	Total Primigravidae		Total Elderly Primigravidae	
		n =	%	n =	%
1983	4302	1467	34.10	29	0.67
1984	4628	1562	33.75	32	0.69
1985	4928	1625	32.97	29	0.59
Total	13,858	4654	33.50	90	0.65

Table II
ELDERLY PRIMIGRAVIDAE BY ETHNIC GROUP DISTRIBUTION

Year	Malay	Chinese	Indian
1983	17	11	1
1984	23	9	0
1985	19	9	1
Total n = 90	59	29	2
%	65.6	32.2	2.2

Table III
ELDERLY PRIMIGRAVIDAE BY AGE AT MARRIAGE

Age (year)	Malay	Chinese	Indian	Total	
				n = 90	%
< 35	7	7	1	15	16.7
35 – 38	41	17	0	58	64.4
39 – 42	10	5	1	16	17.8
43 – 46	1	0	0	1	1.1

Table IV
ELDERLY PRIMIGRAVIDAE BY YEARS BETWEEN MARRIAGE AND BIRTH

Year of marriage	Malay	Chinese	Indian	Total	
				n = 90	%
< 2	39	16	0	55	61.2
2 – 5	15	11	1	27	30.0
> 5	5	2	1	8	8.8
Total	59	29	2	90	100.0

eclampsia. Abruptio placenta in one patient resulted in a fresh stillbirth. Threatened abortion complicated 8 (8.9%) of the cases, but all these patients went on to deliver successfully at term. Preterm labour occurred in eight (8.9%) cases and labour could not be suppressed successfully with tocolytics.

Inspite of close antenatal monitoring 8 (8.9%) had a haemoglobin less than 9 gm per cent when they were in established labour. Hyperemesis gravidarum was noticed in 3 (3.3%) and all these cases needed hospitalization ranging from one to three weeks. Breech presentation was seen in 6 cases (6.7%).

Table V
ELDERLY PRIMIGRAVIDAE BY COMPLICATIONS OF PREGNANCY

Complications	n = 56	% of 90
Pregnancy Induced Hypertension	26	28.0
Eclampsia	2	2.2
Abruptio Placenta	1	1.1
Threatened Abortion	8	8.9
Anemia	8	8.9
Breech	6	6.7
Hyperemesis	3	3.3
Placenta Praevia	1	1.1
Postpartum Haemorrhage	1	1.1

Labour and Delivery

The mode of delivery is shown in Table VI. 35 (38.89%) patients delivered vaginally without assistance. Six patients had forceps delivery. The indications for instrumental deliveries were acute foetal distress and prolonged second stage of labour because of poor maternal effort. Abdominal delivery occurred in a majority of the patients (54.4%).

Table VII illustrates the duration of labour in vaginal deliveries. The first stage of labour was prolonged beyond 12 hours in 18 (51.4%) patients. The second stage exceeded one hour in 12 (34.3%). Third stage complication was only seen in one patient who had postpartum haemorrhage due to atonic uterus. Oxytocin infusion and syntometrine injections successfully arrested the brisk haemorrhage of 800 ml blood.

Table VI
ELDERLY PRIMIGRAVIDAE BY MODE OF DELIVERY

Mode of Delivery	n = 90	%
Vaginal (spontaneous)	35	38.9
Forceps	6	6.7
Caesarean Section	49	54.4

Table VII
ELDERLY PRIMIGRAVIDAE BY DURATION OF LABOUR IN SPONTANEOUS VAGINAL DELIVERY

Stage of Labour	Duration (Hours)	n = 35	%
First stage	< 12	17	48.6
	12 – 18	18	51.4
Second stage	< 11	23	65.7
	1 – 2	12	34.3
Third stage	< ¼	34	97.1
	¼ – 1	1	2.9

Caesarean Section

The indications for abdominal delivery are shown in Table VIII. Active management of labour with the judicious use of oxytocics and application of partograms assisted in the early identification of prolonged labour in 19 (21.2%) cases. This complication together with severe pregnancy induced hypertension were the two common indications for caesarean section. All elderly primigravidae with breech presentation irrespective of the type of breech were delivered by caesarean sec-

tion. The average caesarean section rate in the hospital population was 11.2%. This contrasts sharply with the high rate of 54.4% in the study group.

Neonatal Morbidity and Mortality

All the patients in the study had singleton deliveries. The birth weight of the newborns are shown in Table IX. Only 8 (8.9%) weighed less than 2500 gm. Although there were 6 (6.7%) neonates weighing more than 4000 gm, none of the mothers had diabetes mellitus. 84 (93.3%) babies had an apgar score of seven and above at the end of 1 minute and except for one stillbirth, the score was 9-10 at the end of 5 minutes in all infants. Down's syndrome was noted in one baby born to a 42-year old mother. This female infant had neonatal jaundice beyond 10 days but did not require aggressive therapy. Thyroid functions were normal. There was no cardiac lesion detected.

The perinatal mortality in this study was 11.1 per 1000 compared to the hospital population's 26.6 per 1000 births.

Puerperium:

The puerperium was uneventful in all the mothers except for one patient who had postoperative wound infection following caesarean section. She required secondary suturing of the wound.

Table VIII
ELDERLY PRIMIGRAVIDAE BY INDICATIONS FOR CAESAREAN SECTION

Indication	n = 49
Prolonged Labour	19
Severe Pregnancy Induced Hypertension	10
Eclampsia	1
Acute Fetal Distress	6
Failed Induction	6
Breech	6
Placenta Praevia	1
Total	49

Table IX
ELDERLY PRIMIGRAVIDAE BY BIRTHWEIGHT

Weight of Baby (kg)	Total Babies	
	n = 90	%
< 2.5	8	8.9
2.5 – 3.0	30	33.3
3.0 – 3.5	38	42.2
2.5 – 4.0	8	8.9
> 4.0	6	6.7

DISCUSSION

The incidence of elderly primigravida in our series was 0.65%. This compares with 0.60% quoted by Morrison (1). A definite increase in the number of women bearing children in their 30's and 40's is expected to occur both in developing and developed countries (2). Women's career priorities, tertiary education, availability of fertility control, late and second marriages, changes in sociocultural patterns and mores are some of the common factors affecting postponement of childbearing. In suburban and urban areas of Malaysia different factors appear to operate in the various ethnic groups. Postponement of marriage in the Malay women may be due to a lack of opportunity to meet the right partners. Very often this is due to high literacy rates amongst these women. Teachers, civil servants and other female professionals serving in the rural areas lack the opportunity of meeting men of equal social standing. Physical unattractiveness especially obesity, is another reason for postponement. It is not uncommon for them to be taken as second or third wives of elderly men and pensioners.

Similar factors influence the social pattern seen in Indian and Chinese elderly primigravidae. In addition to this, the withering away of arranged marriages seem to have exerted some influence especially amongst the Chinese.

Pregnancy in women of advanced age is considered a high risk. This concept has been diffused into the health delivery system of the country and prompt referral of these patients for consultation and care is made. Improvement of pregnancy outcome should be anticipated with the availability of amniocentesis, cytogenetics, electronic fetal monitoring and ultrasonography. Except for the latter, the other facilities were not available at this hospital during the period of study. Clinical supervision was largely relied on in management of the cases.

Complications in Pregnancy:

The elderly primigravida is more likely to encounter complications which are the result of the natural process of ageing. Complications of early pregnancy like abortions and hyperemesis gravidarum have been known to occur in this special group (3). There were 3 cases of hyperemesis gravidarum who required hospital admission. However the true incidence of this complication did not differ very much from that of the hospital population.

Pregnancy induced hypertension occurred in 31.3% of elderly primigravidae. This is significantly higher when compared to 11.1% of the complication in primigravidae at the Muar Hospital. High blood pressure favours the development of eclampsia which was noted in 2.2% of cases. One of these patients discharged herself against medical advice when she was under management for severe pregnancy induced hypertension. Tyscoe (4) reported an incidence of 14% for elderly primigravidae from four major hospitals in Vancouver, Canada from 1963-1967.

Abruptio placentae occurred in one patient who had concomitant pregnancy induced hypertension. The complication arose without warning and she delivered a fresh stillborn infant after low artificial rupture of membranes and oxytocin infusion.

The incidence of preterm labour was 8.9%. Tocolytic agents play a limited role in management of established preterm labour. The availability of an excellent neonatal care unit may compromise the need for prolongation of pregnancy in these cases. Morrison (1), in a summary of 127 primigravidae aged 35 and older, found the incidence of prematurity to be 14%.

Diabetes mellitus was not seen in this series. The frequency of this metabolic disorder was not increased among primiparas aged 35 and above (5). As the patient gets older, she may develop other gynaecological problems. Of these, uterine myoma appears to be the most common. One patient in this series had a large uterine fibroid over the lower segment and she had a classical caesarean section done at the time of labour.

A higher incidence of breech presentation has been reported in elderly primigravida (6). This high incidence was not related to prematurity, uterine anomaly or fetal anomaly. The incidence of breech was 6.7% in this study. Though genetic counselling and amniocentesis for cytological karyotyping and biochemistry should be offered for women in the advanced group, these were not available at this hospital. Down's syndrome occurred in one patient.

Management of Labour

41 patients delivered vaginally, six of whom required instrumental delivery. Caesarean section was performed on 54.5% of cases. Stanton (7) demonstrated an increase in prolonged labour among older pregnant women. Friedman (8) showed an increase in prolonged second stage with advancing age. In our series, the first stage of labour was prolonged beyond 12 hours in 21.2% of patients. These figures compare well with the findings of MacDonald et al (9) who reviewed 662 primigravidae from 1950 to 1957. They reported labours of greater than 24 hours in 32.2% in elderly primigravidae and 27.4% in women less than 25 years. However with the institution of active management of labour and use of oxytocics and prostaglandins, the picture may not be the same. Booth and William (10) found the length of labour to be slightly but not significantly prolonged in elderly primigravidae.

An elderly primigravida is anxious and often unsure of her ability to deliver safely. Some degree of uterine inertia may also play a role in causing prolonged labour. Induction and augmentation of labour with oxytocics were carried out in 62% of the cases. A high intervention rate is a consistent finding in the literature.

A caesarean section rate of 17% was reported by Grimes and Gross (6) compared to 10% in those under 35 years of age. These figures are much lower than that reported by other workers. Blum (11) found a higher caesarean section rate (49%). In our series the caesarean section rate (54.4%) was four times higher than that of the hospital population. The hospital policy of performing caesarean section for all breech presentations in elderly primigravida may have contributed towards the increased rate. Postpartum haemorrhage due to uterine atony was seen in only one patient. Retained and adherent placenta may occur more frequently if there is a coexistent uterine fibroid.

Maternal Mortality and Morbidity

There were no maternal deaths in this series. The increased maternal morbidity was due to the increased incidence of hypertension. Eclampsia in two cases and abruptio placenta in one contributed further to morbidity. Anemia was noted in 8.9% of cases in spite of close supervision. This was attributed to failure to take prescribed haematemics, food preference and food taboo in pregnancy. A refractory anemia most probably due to a chronic renal pathology was suspected. However, this patient was lost to follow-up after recovering from a caesarean section.

Perinatal Mortality and Morbidity

The perinatal mortality rate of 11.1 per 1000 births in this series was much lower than that of the hospital population (26.8 per 1000). Much higher perinatal deaths have been reported in the literature (7,10,12). Early booking, close supervision in the antenatal and intrapartum period, appropriately timed obstetric intervention and the advocation of active management of labour may have contributed to good fetal outcome. Obstetric practice presently has moved away from high cavity forceps delivery and unwarranted breech extraction. The liberal use and early resort to caesarean sections has, however, to be looked upon with caution. Advocation of abdominal delivery purely on the grounds of advanced age should be discouraged.

TERMINOLOGY:

Though the term 'elderly primigravida' is extensively used in obstetric literature it appears rather inappropriate for a woman in her third of early fourth decade of life. As was first emphasized by Kirz et at (13), elderly refers to one bordering on old age. With the increase in longevity of life to 60 to 70 years in countries like Malaysia and Singapore other terms should aptly be used. Again, as has been pointed out by these authors (13) the term "mature primigravida" would somewhat be less offensive. 'Mature' is defined as having completed natural growth and development, having attained a final or desired state, or condition of full development (14).

CONCLUSION

The "mature primigravida" poses special obstetric problems. These have been highlighted in obstetric literature. There are differing views on the risks on embarking pregnancy at a later age in life. Unwarranted intervention in labour based on age alone is not acceptable. Management will largely depend on attempts at improving perinatal outcome without compromise to health and well-being of the mother. The perinatal mortality rate was low but the caesarean section rate was high in this study. The literature on this field in Malaysia is scarce. Perhaps studies on

larger series in this region would throw more light on the most appropriate management for the "mature primigravida".

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REFERENCES

1. Morrison I: The Elderly Primigravida. Am J Obstet Gynecol 1974; 121:465-70.
2. Cario G: The Obstetric performance of the elderly primigravida. J Obstet Gyneacol 1985; 5:237-40.
3. Chaudhuri P: Tay BL: Elderly Primigravida – How big is the problem? Sing Family Physician 1983; 9:189-90.
4. Tysoe FW: The effect of age on outcome of pregnancy. Trans Pacif Coast Obstet Gyneacol Soc 1970; 38:8-15.
5. Grimes DA, Gross GK: Pregnancy outcome in black women aged 35 and older.Obstet Gynecol 1981; 58:614-20.
6. Biggs JSG: Pregnancy at 40 years and over. Med J Aust 1973; 1:542-5.
7. Stanton E: Pregnancy after forty-four. Am J Obstet Gynecol 1956; 71:270-84.
8. Friedman E: Relation of maternal age to the course of labour. Am J Obstet Gynecol 1965; 91:915-23.
9. MacDonald IR, MacLennan HR: A consideration of treatment of elderly primigravida. J Obstet Gyneacol Br Cwlth 1960; 67:443-50.
10. Booth RT, William GL: Elderly Primigravida. Br J Obstet Gynecol 1964; 71:249-54.
11. Blum M. Is the elderly primigravida really at risk? J Perinatal Med 1979; 7:108-12.
12. Waters EG, Wager HP: Pregnancy and labour experiences of elderly primigravida. Am J Obstet Gynecol 1950; 59:296-304.
13. Kirz DS, Dorchester W, Freeman HK: Advanced maternal age: The mature gravida. Am J Obstet Gynecol 1985; 152:7-12.
14. Webster's New Collegiate Dictionary, Springfield, Massachusetts: G&C Merriam Company, 1979:704.