

GRAND MULTIPARA

(A Clinical Study)

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Introduction

In the past, people in general as well as the medical practitioners believed that once a woman had safely passed through her first pregnancy and labour, she had practically nothing to worry about her subsequent childbirths. It was Solomons who in 1934 first drew the attention to the risks of high parity and used the term "dangerous multiparas" for the women who had already delivered five or more viable children. Since then, a number of observers (Eastman, 1940; Greenhill, 1965; Donald, 1969 and others) have confirmed the higher incidence of complications of pregnancy and labour leading to higher foetal and maternal mortality amongst grandmultiparas. Although a few authors (Krebs, 1956; Schrafman and Silverstein, 1962) think that the danger of multiparity has been exaggerated. In the developing countries like ours, the grand multiparas undoubtedly pose a problem which deserves study from time to time. This is a report of our experience and observations on the careful study of one hundred grandmultiparas in Assam under the prevailing socio-economic condition of the region.

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Material and Methods

One hundred grandmultiparas who had already delivered 5 or more viable babies were selected at random for a thorough clinical study from amongst the women admitted into the obstetric ward of the Gauhati Medical College Hospital, during the period from 1-2-1970 to 31-10-1970. Besides, 25 primigravidas, 25 women of para 1 and another 25 women of the parity Group II to IV were included in the series for comparative study. On admission, a detailed history of all grandmultiparas was taken and recorded in a special proforma prepared for the purpose. All the cases were closely observed during pregnancy and labour and till their discharge from the hospital and all relevant findings were recorded.

Observations and Discussions

Incidence: In the present study, the incidence of grandmultiparas was found to be 16.72 per cent of all obstetric cases admitted into the Gauhati Medical College Hospital, during the year 1970. This is a higher incidence than that observed by most of the authors (Fig. 1). The incidence of grandmultiparas as reported by different authors varies widely from 1.6 per cent (Oxorn, 1955) to 30.5 per cent (Dutta, 1970). This variation can be explained by the fact that different authors have taken different criteria for

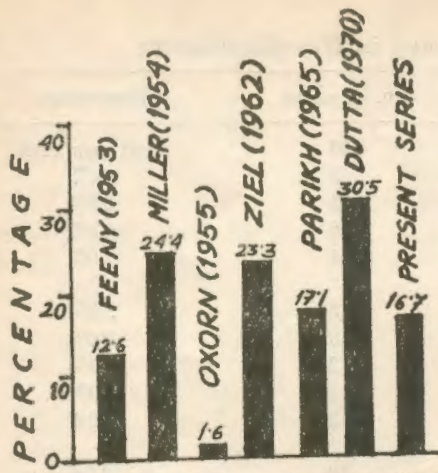


FIG:-1. SHOWING INCIDENCE OF GRAND MULTIPARAS.

grandmultiparity. A woman with five or more viable deliveries has been taken as a grandmultipara in this study.

Age: The age of the grandmultiparas in the present study varied from 25 years to 41 years (Fig. 2) with an average of

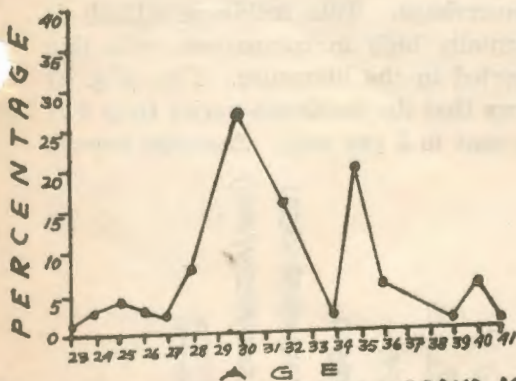


FIG:-2. DISTRIBUTION OF GRAND MULTIPARAS BY AGE (PRESENT SERIES)

31.6 years. Most of the women (45%) belonged to the age group—29 to 34 years. This shows that many women of Assam become mothers of five or more children at a comparatively younger age. 80 per cent of Oxorn's and 47 per cent of Kreb's cases of grandmultiparas were past the age of 35 years. 8.4 per cent of

Kreb's patients were over 40 years against only one per cent of the present series. 40 per cent of the cases reported by Dutta (1970) also were below 30 years of age. Early marriages, lack of knowledge or desire for spacing of childbirths and limitation of the family amongst the general population of our country may account for the lower average age of our grandmultiparas.

Parity: 35 per cent of the cases were para 5 and 27 per cent para 6. The latter figure compares well with 25.9 per cent reported by Miller (1954). 15 per cent of the cases were para 7, 12 per cent para 8 and 11 per cent belonged to parity group—9 to 15.

Socio-economic Status: 82 per cent of the grandmultiparas of the present series belonged to lower income group, 10 per cent to middle income group and only 8 per cent belonged to high income group. 58 per cent of the lower income group came from the cultivators' family and the rest from labour or working class people who were illiterate or poorly educated. Thus poverty, illiteracy and ignorance combined to raise the incidence of grandmultiparity in the present series.

Antenatal Care: Only 29 per cent of the grandmultiparas and 40 per cent of the women belonging to parity 2 to 4 had some antenatal care during pregnancy. This reflects on the very poor and deplorable standard of obstetric care of our expectant mothers in Assam and obviously lack of antenatal care greatly adds to the hazards of high parity.

Anaemia: Table 1, shows that anaemia is the commonest complication of pregnancy amongst the grandmultiparas of the present series, and the incidence was 100 per cent even when 10 gm. per cent was taken as normal standard of haemoglobin. It appears that incidence of

TABLE I
Showing Complications of Pregnancy in Grandmultiparas

| Complications | No. of cases | Percentage |
|---|--------------|---------------|
| 1. Anaemia (Hb. below 10 gm. per cent) | 100 | cent per cent |
| 2. Toxaemia | 9 | 9.0% |
| 3. Cardiovascular and renal disorders | 3 | 3.0% |
| 4. Antepartum haemorrhage, placenta praevia, accidental haemorrhage | 6 | 6.0% |
| 5. Malpresentations | 11 | 11.0% |
| Breech | 3 | 3.0% |
| Shoulder | 9 | 9.0% |
| 6. Multiple pregnancy | 2 | 2.0% |
| 7. Hydramnios | 2 | 2.0% |
| 8. Other complications (uterovaginal prolapse) | 2 | 2.0% |
| 9. Postmaturity | 10 | 10.0% |

anaemia of pregnancy is very high in Assam even in general population, perhaps due to the low socio-economic status, dietetic deficiency and widespread gastrointestinal disturbances prevalent in the State. It is no wonder that cent per cent of the grandmultiparas in the present series were anaemic.

Toxaemias of Pregnancy: In the present series, the incidence of pre-eclampsia was 9 per cent. This compares well with 9.7 per cent reported by George and Power (1949). On the other hand, Miller (1954) observed a much lower incidence (4.1%) amongst grandmultiparas.

Hypertensive Cardio-vascular Diseases: In the present series, 3 per cent of women had essential hypertension. The incidence varied from 2.1 per cent (Krebs, 1956) to 22.1 per cent (Nelson and Sandmeyer, 1958). Hypertension and lack of cardiovascular resiliency appear with the advancement of the age of the women of high parity.

Placenta Praevia: Six cases had placenta praevia. This incidence is significantly higher than that observed by others. Although many authors, (Solomons, 1934; Eastman, 1940; George and

Power, 1949 and Donald, 1969) observed higher incidence of placenta praevia amongst women with high parity, the incidence has been reported to be as low as 0.6 per cent (Schram 1954).

Accidental Haemorrhage: In the present study, eleven cases had accidental haemorrhage. This incidence (11%) is unusually high in comparison with that reported in the literature. The (Fig. 3) shows that the incidence varies from 0.74 per cent to 3 per cent. Amongst women

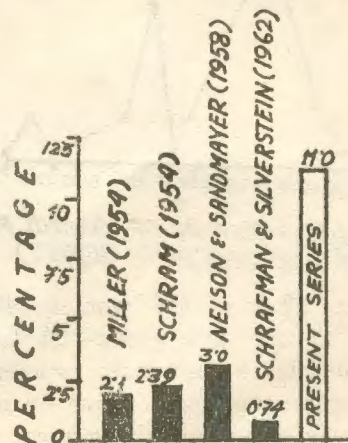


FIG.-3. SHOWING INCIDENCE OF ACCIDENTAL HAEMORRHAGE IN GRAND MULTIPARAS.

other than grandmultiparas of the present series, the incidence of accidental haemorrhage was 2.6 per cent.

Malpresentations: In the present series, 9 cases had malpresentations. Incidence of malpresentation amongst other women was 6.6 per cent. The incidence of malpresentations in grandmultiparas varies from 4.8 per cent (Krebs 1956) to 12.6 per cent (Oxorn, 1965). Parikh (1965) also observed high incidence of malpresentations and malpositions amongst multiparas.

Transvers Lie: Six cases (6%) and 3 of 75 women other than grandmultiparas of the present series had shoulder presentation or transverse lie of the foetus. The incidence is much higher than that reported by George and Power (1949), Barns (1953) and Krebs (1956). No satisfactory explanation can be offered for this except that many of the women of the present series had no antenatal check up and therefore no chance of previous external cephalic version.

Breech Presentation: Incidence of breech presentation was 3 per cent and in women other than grandmultiparas it was 2.6 per cent. The incidence as reported in literature varies from 1.9 per cent (Schram, 1954) to as high as 10 per cent (Oxorn, 1955).

Multiple Pregnancy: In the present series, the incidence of multiple pregnancy was 2 per cent which compares well with 2.3 per cent observed by Schram (1954) and 2.1 per cent by Krebs (1956). It appears that multiple pregnancy with its additional hazards occurs more frequently in grandmultiparas.

Postmaturity: Ten (10%) and one of 75 women other than grandmultiparas (1.3%) of the present series had prolonged pregnancy, 42 weeks or more.

This is an important and significant finding in the present study, also observed by other workers. Labour was induced with oxytocin drip in four of them and the rest went into labour spontaneously. There was no incidence of rupture of uterus in any of them and Schrafman and Silverstein (1962) also had similar experience with medical induction of labour in grandmultiparas.

Hydramnios: In two cases (2%) the pregnancy was complicated by hydramnios. 2.4 per cent of grandmultiparas of O'Sullivan's (1963) series also had hydramnios. Hydramnios was observed in none of the other women of the study.

Utero-vaginal Prolapse: In two women (2%) the pregnancy was complicated with uterine prolapse. However, none of them had any unusual difficulty during labour, although one required low forceps application.

Other Associated Diseases: In the present series, there was one case of syphilis, one case of epilepsy and another case of rheumatic fever. With usual management of these diseases, they had no ill-effects on the course of pregnancy or labour.

Cephalopelvic Disproportion: Mild or moderate degree of cephalopelvic disproportion was encountered during labour in three cases (3%) of this series. Two had flat pelvis and the other one had an oversized baby. These mothers had previous spontaneous vaginal deliveries. Green Armytage (1928), Solomons (1934), Barns (1953) and Donald (1969) have also observed cephalopelvic disproportion in grandmultiparas who had previous normal deliveries.

Duration of Labour: Duration of labour in grandmultiparas in the present study varied from 1 hour 35 mts. to 60 hours 5 mts. The average duration of labour was,

however, only 8 hours 5 mts. In multiparas other than grandmultiparas of the present series, the average duration of labour was 9 hours 5 mts.

Uterine Inertia: In the present series, 2 cases had uterine inertia and four others had abnormal prolongation of labour beyond 24 hours due to disproportion and shoulder presentations.

Mode of Delivery: In the present series 80 out of 100 (80%) had spontaneous labour, 8 required forceps extraction and 12 caesarean sections.

Caesarean Section: Twelve out of 100 women of the present series (12%) required caesarean section. Incidence varies from 1.2 per cent (Schram, 1954) to 15.9 per cent (O'Sullivan, 1963).

Five caesarean sections were done for transverse lie, four for placenta praevia and one each for cord presentation cervical dystocia and postmaturity.

Postpartum Haemorrhage: Eight out of 100 cases (8%) and 2.6 per cent of other women of the present series had postpartum haemorrhage showing a significant difference in the two groups of patients. The incidence of postpartum haemorrhage in grandmultiparas varies from 8.1 per cent (Barns, 1953) to 13.7 per cent (Feeny, 1953).

Retained Placenta: In the present series, the incidence of retained placenta was 3 per cent amongst grandmultiparas and 1.8 per cent amongst women other than grandmultiparas. In Schram's series of 502 cases, it was 2.9 per cent, but most of the other authors did not observe higher incidence of retained placenta amongst grandmultiparas.

Rupture of Uterus: In the present series, there was one case of rupture of uterus, but none of amongst other women. This patient with history of seven previous natural deliveries had obstructed

labour due to transverse lie of the foetus and was admitted with rupture of the uterus with classical signs and symptoms of shock and haemorrhage. Incidence of rupture of uterus in grandmultiparas varies from 0.1 per cent (Parikh, 1965) to 1.1 per cent (Feeny, 1953).

New Born Babies: In the present series, one hundred and two babies were born to 100 grandmultiparas. Fifty-six babies were male and 46 female.

Birth Weight: Most of the babies (70.6%) weighed between 2001 gm. to 3200 gms. 19.6 per cent of the babies had birth weight varying from 3201 gm. to 3650 gms. (Fig. 4).

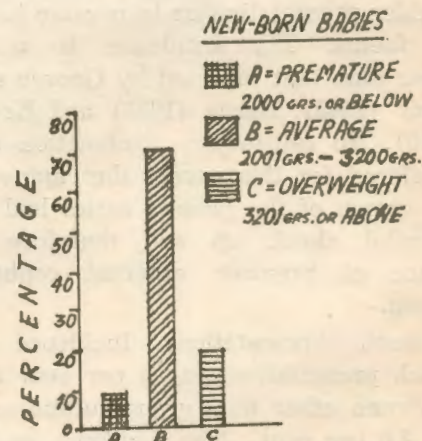


FIG.-4. PREMATURE, OVERWEIGHT & OTHER BABIES IN GRAND MULTIPARAS OF PRESENT SERIES.

Prematurity: As the birth weight of an average Indian baby is much lower, a baby weighing 2000 gms. or less may be taken as the standard of low birth weight baby and by this standard, the incidence of these babies in this series comes to 9.8 per cent. Parikh (1965), reported an higher incidence of 14.1 per cent, while Schram (1954) and Krebs (1956) observed an incidence of 5.6 per cent and 6.8 per cent respectively amongst grandmultiparas.

Oversized-Babies: The incidence of

oversized babies in this series was 19.6 per cent and it was 11.5 per cent in other women, if 3200 gms. or above is considered to be the weight of a big baby for an Indian mother. In the series reported by Parikh (1965), 22.4 per cent of all babies had birth weight 3100 gms. or above.

Congenital Malformations: Three of the 102 babies (2.9%) had congenital deformities. One had poly-dactyly and two had talipes equinovarus.

Stillbirths: Fourteen out of 102 newborn babies (15.9%) of the grand multiparas of the present series were stillborn compared to 5.1 per cent of babies born to mothers other than grand-multiparas. Perinatal mortality was 17.6 per cent against 10.2 per cent amongst babies of other women. The unusually high stillbirth rate and perinatal mortality in the present series may be explained by the fact that most of the patients were emergency admissions late in labour with various complications like antepartum haemorrhage (42.8%), toxæmia of pregnancy (28.5%) and malpresentation and malposition (28.5%). Prematurity also accounted for the death of some babies.

The observations in the present study confirmed that the perinatal death rate is higher amongst the newborn babies of grand multiparas.

Maternal Morbidity: The incidence of maternal morbidity in this series was 11 per cent against 9.2 per cent reported by Oxorn (1955) and 2.2 per cent by Krebs (1956).

Maternal Mortality: Two cases (2%) of the present series were unfortunately lost, but there was no death amongst other 75 women included in the study.

In India, present day maternal mortality rate varies from 2.2 (Gun, 1970) to 11.93 (Shastrakar, 1970) per thousand total births in general population. In the

present series it was 20 per thousand births and the cause of death in one was rupture of uterus and in the other, placenta praevia. Eastman (1940) and Greenhill (1965) also observed that rupture of uterus and placenta praevia constituted major causes of maternal deaths in grand-multiparas.

Thus, the fact that parity carries a much higher risk to life is confirmed in the present study. The problem of grand-multiparity is all the more important in our country as the maternal mortality is considerably high amongst women with high parity. In order to reduce the unusually high maternal mortality and perinatal deaths, one should give due importance to the problems of grandmultiparity. This is also important from the point of family planning and population control which is a burning problem of the day.

Summary

1. This is a study on the obstetric behaviour of one hundred grandmultiparas selected from amongst the patients admitted into the obstetric ward of the Gauhati Medical College Hospital, during the period from 1st February 1970 to 31st October 1970. Another seventy-five pregnant women other than grand multiparas were also included in the series for comparative study.

2. Incidence of grandmultiparas (women who had already delivered five or more viable babies) was 16.72 per cent.

3. The age of the grandmultiparas varied from 21 to 41 years, with an average of 31.6 years.

4. Almost all the complications of pregnancy and labour were observed to be higher amongst grandmultiparas than amongst women other than grandmultiparas of the present series.

5. 90 per cent of the grandmultiparas had spontaneous labour, 8 per cent of the women had low forceps extraction and 12 per cent required caesarean sections.

6. Stillbirth rate and perinatal death rates in the present series of grandmultiparas were 13.9 and 17.6 per cent, respectively.

7. Maternal mortality and morbidity amongst grandmultiparas of the present series were 2 per cent and 11 per cent respectively.

Conclusion

On comparative analysis one comes to the conclusion that the grandmultiparas are indeed high risk patients and the risk rises as the parity increases. They are liable to many of serious complications of pregnancy and labour leading to a considerable higher maternal and foetal mortality.

Acknowledgement

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