

## ROLE OF GRANDMULTIPARITY IN THE CAUSATION OF HIGH RISK PREGNANCY

by

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In well developed countries where the standard of ante-natal care and obstetric practice is high grandmultiparity may not be a serious problem. But in developing countries like India grandmultiparity poses a threat to the life of the mother and baby (Fig. 1) and this was confirmed by a study undertaken by us in the Gauhati Medical College Hospital during the year 1970-71.

THE TAJ MAHAL WAS BUILT BETWEEN 1631 AND 1653 BY EMPEROR SHAH JAHAN (1627-1658) AS THE TOMB FOR HIS WIFE ARJUMAND BETTER KNOWN AS MUMTAZ MAHAL, 'ORNAMENT OF THE PALACE'. BORN IN 1592, THE DAUGHTER OF ASAF KHAN, SHE MARRIED SHAH JAHAN IN 1612 AND DIED IN 1631 AFTER THE BIRTH OF HER FOURTEENTH CHILD. AFTER HIS DEATH THE EMPEROR WAS BURIED BY HER SIDE.

**Fig.1. Photograph of a tablet from Tajmahal indicating Mumtaz a Grand multipara.**

Our experience and observations in 100 grandmultiparous women are recorded here.

The incidence of grandmultipara was 16.72 per cent amongst 3614 obstetric

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cases, considering a mother with 5 or more viable babies a grandmultipara. The incidence as reported by different authors varies widely from 1.6 per cent (Oxorn 1955) to 30.5 per cent (Dutta, 1970). This wide variation is probably because different authors have taken different criteria for grandmultiparity.

Most of the women (45%) belonged to the age group of 29-34 years. Thirtyfive per cent of cases were para 5 and 27 per cent para 6; 82 per cent of the women belonged to lower income group and only 29 per cent received some ante-natal care.

Table 1 shows the complications during pregnancy.

TABLE I  
*Showing Complications of Pregnancy in Grand Multiparae*

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	6	6.0%
Accidental haemorrhage	11	11.0%
5. Postmaturity	10	10.0%
6. Malpresentations: Breech	3	3.0%
Shoulder Malpositions	6	6.0%
7. Multiple pregnancy	2	2.0%
8. Hydramnios	2	2.0%
9. Other complications (Uterovaginal prolapse)	2	2.0%

Anaemia is the commonest complication and it is no wonder 100 per cent of the women of the present series were anaemic even when 10 gm per cent was taken as the normal standard of haemoglobin. (Fig. 2). Low socio-economic con-

dition, dietetic deficiencies and widespread gastro-intestinal disorders possibly account for this high incidence. Incidence of toxæmia of pregnancy was 9 per cent. This compares well with 9.7 per cent reported by George and Power (1949). 3 per cent women had essential hypertension (Table 1). The incidence varies from 2.1 per cent (Krebs, 1956) to 22.1 per cent (Nelson and Sandmayer, 1958). Hypertension and lack of cardiovascular resiliency appear with the advancement of age of the women with high parity.

Six cases had placenta praevia and 11 mothers had accidental haemorrhage. The incidence of eleven per cent is

unusually high in comparison with that reported in the literature. Incidence varies from 0.74 per cent (Shrafman and Silverstein, 1962) to 3 per cent (Nelson and Sandmayer, 1958). High incidence of anaemia and widespread malnutrition, deficiency of Vit. C and folic acid probably account for this.

Nine cases had malpresentation, 6 per cent had transverse lie and 3 per cent had breech presentation of the foetus. The incidence of malpresentations in grandmultiparae varies from 4.8 per cent (Krebs, 1956) to 12.6 per cent (Oxorn, 1965). Many women of the present study had lax abdomen and lack of ante-natal care and opportunity for external cephalic version were perhaps responsible for this high incidence of malpresentations.

Incidence of multiple pregnancy was 2 per cent. Ten women had prolonged pregnancy 42 weeks or more. This is an important and significant finding in the present study observed by few workers. Labour was induced in 4 of them with no untoward effect. Two per cent of the cases were complicated with hydramnios.

2.4 per cent of grandmultiparae of O-Sullivan's (1963) series also had hydramnios. Two mothers had utero-vaginal prolapse. None of them had any unusual difficulty during labour although 1 required low forceps extraction. There was 1 case of syphilis, 1 case of epilepsy and another had rheumatic fever.

Labour: Table II shows complications during labour.

Mild or moderate degree of disproportion was encountered in 3 during labour. Two had flat pelvis and one had an oversized baby. Green-Armytage (1928) Solomons (1934), Barns (1963) and Donald (1969) have also observed

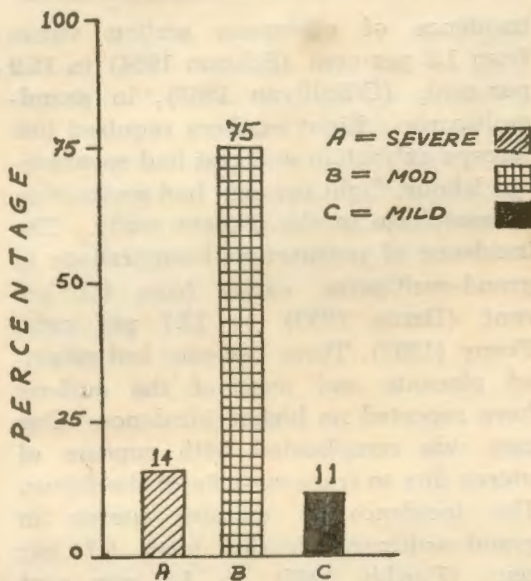


FIG.-2. ANAEMIA OF DIFFERENT DEGREE IN GRAND MULTIPARAS OF PRESENT SERIES.

TABLE II  
Showing Complications in Labour of  
Grand Multiparae

Complications	No. of Cases	Incidence per cent
1. Uterine inertia	2	2.0%
2. Disproportion	3	3.0%
3. Rupture uterus	1	1.0%
4. Postpartum haemorrhage	8	8.0%
5. Retained placenta	3	3.0%

cephalo-pelvic disproportion in grand multiparae who had previous normal deliveries.

Duration of labour varied from 1 hour 35 mts. to 60 hours 5 mts. with an average of 8 hours 5 mts.

Two had uterine inertia and 4 others had abnormal prolongation of labour beyond 24 hours due to disproportion and shoulder presentation. Twelve required caesarean section, 5 for shoulder presentation and 4 for placenta praevia. Fig. 3 and Table 3 show that

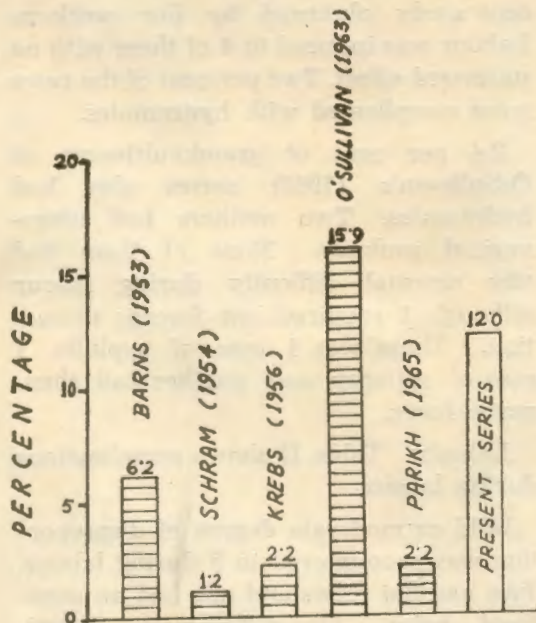


FIG.-3. SHOWING INCIDENCE OF CAESAREAN SECTIONS IN GRAND MULTIPARAS

TABLE III  
Showing Modes of Delivery in Grand  
Multiparae

Spontaneous	80	80.0%
Forceps	8	8.0%
Caesaran section	12	12.0%

incidence of caesarean section varies from 1.2 per cent (Schram 1954) to 15.9 per cent, (O'Sullivan 1963), in grand-multiparae. Eight mothers required low forceps extraction and rest had spontaneous labour. Eight per cent had postpartum haemorrhage in the present study. The incidence of postpartum haemorrhage in grand-multiparae varies from 8.1 per cent (Barns 1953) to 13.7 per cent. Feeny (1953). Three per cent had retained placenta and most of the authors have reported no higher incidence. One case was complicated with rupture of uterus due to transverse lie of the foetus. The incidence of rupture uterus in grand-multiparae varies from 0.1 per cent (Parikh 1965) to 1.1 per cent (Feeny, 1953).

New born babies: There were 56 female and 46 male babies. Incidence of low birth weight and oversized babies was 9.8 per cent and 19.6 per cent respectively (Fig. 4). Parikh also (1965) reported 22.4 per cent babies were having birth weight of 3100 gms or above. 2.9 per cent had congenital malformations.

Stillbirths and perinatal mortality in this series were 15.9% and 17.6% respectively. (Fig. 5). This unusually high mortality may be explained by the fact that most of the patients had admissions late in labour with complications like ante-partum haemorrhage (42.8%), toxæmia of pregnancy (28.5%), and malpresentation and mal-position (28.5%). Perinatal death rate is higher

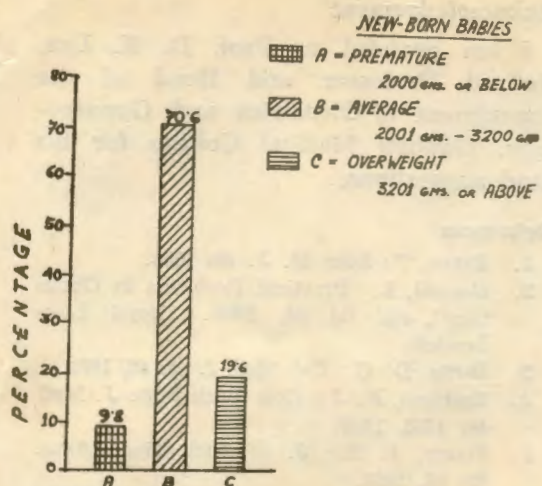


FIG.- 4: PREMATURE, OVERWEIGHT & OTHER BABIES IN GRAND MULTIPARAS OF PRESENT SERIES.

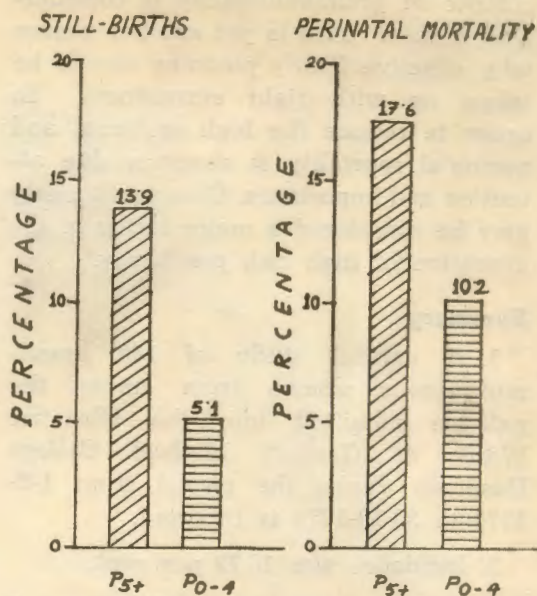


FIG.- 5: PERCENTAGE OF STILL-BIRTHS & PERINATAL MORTALITY IN GRAND MULTIPARAS & OTHER WOMEN OF PRESENT SERIES.

in new born babies of grandmultiparas as confirmed in this study.

Incidence of maternal morbidity was 11 per cent. The incidence varies from 2.2 per cent (Krebs, 1956) to 9.2 per cent (Oxorn 1955). Two mothers were unfortunately lost. Death in one case was due to rupture of uterus and in the other it was due to placenta praevia. Eastman (1940) and Greenhill (1965) also observed that rupture of uterus and placenta praevia constituted major cases

of maternal deaths in grandmultiparas (Table 4).

Thus the fact that grandmultiparity carries a much higher risk to life is confirmed in the present study. The problems of grandmultiparity is all the more important in our country where the in-

TABLE IV  
Showing Maternal Mortality in Grand Multiparas

Authors	No. of Grand Multiparas	No. of deaths	Incidence per cent
George & Power (1949)	783	7	0.89%
Barns (1953)	306	4	1.3%
Feeny (1953)	518	5	0.96%
Miller (1954)	583	1	0.17%
Schram (1954)	502	2	0.4%
Petry & Pearson (1955)	862	-	0.35%
Oxorn (1955)	1056	10	0.95%
Nelson & Sandmeyer (1958)	812	1	0.12%
Schrafman & Silverstein (1962)	403	-	0.2%
Parikh (1965)	2638	12	0.45%
Present series (1970-71)	100	2	2.0%

idence of grandmultiparity is considerably higher. This is yet another reason why effective family planning should be taken up with right earnestness. In order to reduce the high maternal and perinatal mortality it deserves due attention and importance. Grandmultiparity may be considered a major factor in the causation of high risk pregnancy.

#### Summary

1. A careful study of 100 grandmultiparous women from among the patients admitted into the Obstetric Wards of Gauhati Medical College Hospitals during the period from 1-2-1970 to 30-10-1970 is reported.

2. Incidence was 16.72 per cent.

3. Almost all the complications of pregnancy and labour were found more common in grandmultiparae.

4. Interference rate in labour was higher among them, including caesarean sections (12 per cent).

5. Stillbirth and perinatal death rate were 13.9 per cent and 17.6 per cent respectively.

6. Maternal morbidity and mortality rates were 11 per cent and 2 per cent respectively.

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