GRAND MULTIPARA

by

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Ever since Solomon coined the term grand multipara, in 1934, the concept of grand multipara as a treacherous and dangerous obstetric client is so much taken for granted that very few have questioned the existence of a "grand multipara". The present paper is the result of an effort to find out whether there is any such thing as the "grand multipara".

In 1940, Eastman studied 45,514 consecutive obstetric cases and strongly advocated therapeutic sterilisation after the eighth viable delivery. His conclusion was based on the fact that maternal mortality among these women was three times greater than in those women who had borne 1—5 children. Solomon called grand multipara as "dangerous multipara", while Greenhill and De Lee (1951) used the term "old multipara". George and Power (1949) concluded that not only maternal mortality but maternal morbidity and foetal mortality were high among grand multiparae. While Fuchs and Pertz (1961) do not consider grand multiparae as predestined to complications of pregnancy, they do stress the importance of observing them in a well equipped hospital. Krebs (1956) after studying grand multiparae wonders whether the drastic statements made about these women are always warranted. Schram (1954) remarks that although parity is a deciding factor for a few obstetrical complications, it, in many cases, is merely secondary to pre-existing systemic conditions prevalent among all the older age groups.

If opinions are so diverse on the significance of grand multiparae it is not surprising that they are no less diverse on the question of the parity beyond which a woman should be labelled as "Grand multipara" or "Dangerous multipara". Eastman (1940) and Nelson and Sandmeyer (1958) term a grand multipara as one who has had eight viable deliveries, while Kuperman (1960) calls a woman a grand multipara after her fifth viable delivery. Krebs (1956) and Fuchs and Peretz (1961) designate a woman as a grand multipara if she has had 7 or more deliveries.

Material and Observations

From 1st January 1963 to 31st December 1963 there were 10,923 confinements at the Nowrosjee Wadia Maternity Hospital, Bombay. As parity increases there is a significant fall in the number of confinements

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TABLE I

Incidence of Parity

Parity	I	II	III	IV	V	VI	VII	VIII	IX +	Total
Total No. of confinements	2566	2107	1838	1588	1153	756	443	265	207	10923
Per cent	23.49	19.28	16.82	14.53	10.55	6.92	4.05	2.42	1.89	

(Table 1). This is only to be expected. Out of 10,923 confinements, 2,566 were in primiparae giving an incidence of 23.49 per cent. There were only 207 confinements among IX parae and above. As per Eastman's (1940) definition, there were 472 confinements among grand multiparae, i.e. 4.31 per cent, while according to the definition of Kuperman (1960), 1,671 were grand multipara giving an incidence of 15.3 per cent.

Abortions

Out of 10,923 confinements at our hospital 1,175 were abortions giving an incidence of 10.75 per cent, which compares fairly well with the various reported incidences. Abortions were much less among multiparae, specially V para onwards. Incidence of abortions among primiparae was 12.16 per cent, while in parity groups II — IV is was 9.31 per cent and V para onwards it was 6.6 per cent. In general as parity increased, the incidence of abortion tended to fall.

A further study of the problem of the grand multiparae is focussed on the complications during second and third trimester of pregnancy and during labour; cases of abortions— 1,175 — are excluded hereafter. Hence all further analysis is done with 9,748 deliveries.

Age factor is not taken into consideration as it is difficult to get the exact age from the class of patients who attend the hospital.

Antenatal care

Out of 9,748 deliveries, 7,594 were registered cases giving an incidence of 77.9 per cent. In the present series antenatal care received by the patients of different parity groups except parity I is the same. In all other parity groups incidence of registered cases was 80.22 per cent. Out of 2,100 primiparae, 1,395 were registered cases giving an incidence of 66.33 per cent. This incidence is low when compared with any other parity. This is because primiparity is predominent in the emergency admissions due to the higher incidence of various complications of pregnancy and labour in primiparae.

Anaemia

Anaemia is one of the most important complications of pregnancy. In the present study a woman whose haemoglobin percentage was less than 60 was considered anaemic. Only in 6,379 cases was haemoglobin percentage was available. At our hospital haemoglobin estimation is routinely carried out at the first antenatal visit. Table 2 shows that inci-

TABLE II

Anaemia

Parity	I	II-IV	V-VII	VIII +	Total
No. of cases	1461	3189	1423	306	6379
Cases with Hb. less than 60%	799	2013	999	205	4016
Incidence of anaemia per cent	54.68	63.47	69.48	67.21	62.97

dence of anaemia increased with parity and specially so with parity groups V onwards. Poverty, malnutrition and other socio-economic factors contribute further towards the poor health of the latter group.

Toxaemia of pregnancy

This is another important complication of pregnancy. In Eastman's (1940) series this was one of the common complications encountered among VIII parity and above. Fuchs and Peretz (1961), however, did not find the incidence of toxaemia of pregnancy high among grand multiparae. Table 3 shows that incidence of toxaemia and that of eclampsia was high among primiparae. There was no significant difference in the incidence of toxaemia as well as in that of eclampsia among parity groups other than parity I.

Antepartum haemorrhage

Regarding antepartum haemorrhage some authors find increased incidence of placenta praevia, while others find increased incidence of accidental haemorrhage in grand multiparae.

Eastman (1940) finds increase in the incidence of placenta praevia in direct proportion to parity. Fuchs and Peretz (1961) and Krebs (1956) find placenta praevia just as common in all parity groups. George and Power (1949) find both accidental haemorrhage and placenta praevia more frequent in parae sixth and above.

Out of 9,748, patients, 170 had

TABLE III

Toxaemia

Parity	I	II to IV	V to VII	VIII & over	Total
Deliveries	2100	5010	2195	443	9748
Cases of toxaemia	116 (5.52)	157 (3.12)	68 (3.35)	12 (3.38)	353 (3.62)
Cases of eclampsia	12 (0.57)	9 (0.17)	3 (0.12)	1 (0.13)	25 (0.25)

Figures in the brackets indicate incidence per cent.

antepartum haemorrhage, giving an incidence of 2.24 per cent. Out of these, 102 were cases of accidental haemorrhage and 68 of placenta praevia. Thus the incidence of accidental haemorrhage and placenta praevia was 1.2 per cent and 1.04 per cent respectively. As parity increased the incidence of these increased (Fig. 1).

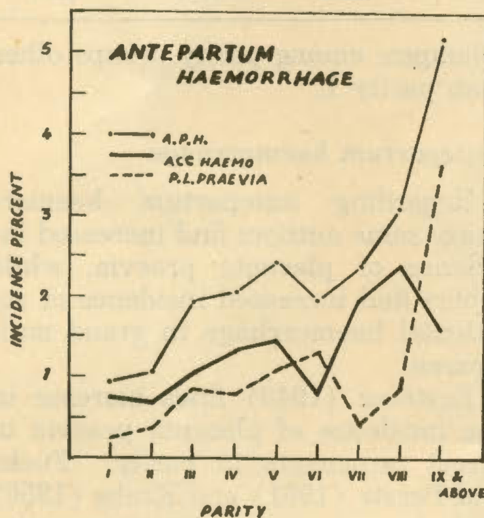

Fig. 1

Malpresentations and malpositions

Out of 9,748 deliveries, 472 had malpresentations like breech, transverse etc. or malpositions like occipito-posterior or deep transverse arrest. Incidence of malpresentations and malpositions in parity I and parity II-IV was 4.89 and 4.54 per cent respectively, while in parity V-VII and VIII and above it was 5.4 and 6.28 per cent respectively. There appears to be increase in the incidence of malpresentations and malpositions as parity increases.

Eastman (1940) and Fuchs and Peretz (1961) find increase in all malpresentations in parity VIII and above, while George and Power (1949) do not find significant rise in breech presentations but a greatly increased incidence in transverse lie in parity VIII and above.

Operative deliveries

Table IV shows that the incidence of operative delivery was high among primiparae. The incidence of operative delivery among party VIII and above as compared with parity V to VII is statistically significant (P 0.05). Thus incidence of operative delivery increases from parity VIII.

Primary caesarean section

There were 191 primary caesarean sections performed among 9,748 deliveries giving an incidence of 1.95 per cent. The incidence of primary caesarean section was slightly raised among primiparae but it was practically the same among parity groups II-IV and V to VII. Incidence was markedly increased among parity group VIII and above (Table 4).

Operative vaginal delivery

Incidence of operative vaginal deliveries was highest among primiparae (Table IV). It was practically the same among parity groups II to IV and V to VII. Incidence increased among para VIII and above.

Third stage complications

This includes post-partum haemorrhage and retention or adherent placenta which required manual removal. There seems to be wide variation in the reports on post-partum

TABLE IV
Operative Delivery

Parity	I	II to IV	V to VII	VIII & over	Total
Deliveries	2100	5010	2195	443	9748
Operative deliveries (a and b) ..	286	256	97	32	671
	(13.6)	(5.11)	(4.63)	(7.22)	(6.89)
(a) Primary caesarean section ..	54	79	43	15	191
	(2.57)	(1.54)	(1.95)	(3.83)	(1.95)
(b) Operative vaginal delivery ..	232	102	46	16	396
	(11.04)	(2.01)	(2.35)	(3.62)	(4.06).

Figures in the brackets indicate incidence per cent.

haemorrhage. The general consensus is that these complications are increased among multiparae. Fuchs and Peretz (1961) noted that in their series the incidence of post-partum haemorrhage was the same among grand multiparae as in the general group. Barns (1953) comments that the incidence of post-partum haemorrhage among grand multiparae has probably been unduly emphasized.

In the present series, incidence of third stage complications among primiparae was 2.66 per cent; while among parity V and above it was 2.3 per cent. This variation of third stage complications among various parity groups did not show any statistical significance.

Rupture of uterus

In the present series there were 11 cases of rupture uterus among 9,748 deliveries. Out of these 11, three were rupture of classical caesarean scar. The parity distribution in the remaining 8 was — 3 were among second and 2 in the third, and one in each VI, VII and VIII para. No conclusions can be drawn from these small figures.

Nelson and Sandmeyer (1958) claimed that as the myometrium is poor in elastic elements, there is a greater risk of spontaneous rupture or artificial injury to the wall of the uterus in para VIII and above. Krebs (1956) reviewed the literature and found four cases of rupture of uterus among 4,260 grand multipara, i.e. para VII and above; out of these four, only one was spontaneous and the remaining three were due to accouchment forcé.

Maternal mortality

There were 26 maternal deaths among 9,748 confinements at our hospital, giving the maternal mortality rate of 2.66 per thousand (Table V).

TABLE V
Maternal Mortality

Parity	I	II-IV	V-VII	VIII +	Total
Deliveries	2100	5010	2195	443	9748
Maternal deaths	5	9	8	4	26
Incidence per thousand .. .	2.38	1.79	3.64	9.23	2.66

As parity increases, after the fifth, there appears to be an increase in the incidence of maternal mortality.

Eastman (1940) advised therapeútic sterilisation after the eighth viable delivery, because of marked increase in maternal mortality rate beyond that parity, while in Kreb's (1956) series none of the maternal death was among para VII and above.

Petry and Pearson (1955) found that even when mortality is reduced to half, in years 1942 to 1953, from the one in years 1896 to 1939 among all parities, the mortality for grand multipara still remains twice that encountered in all deliveries.

Overweight babies

General consensus of opinion is that as parity increases, the weight of baby increases. Petry and Pearson (1955) and Nelson and Sandmeyer (1958) have found significant increase in the number of overweight babies among grand multiparae.

Babies born at our hospital weigh on an average 5.87 ± 1.03 (S.D.) lbs. as shown by Kulkarni *et al.* (1959). Hence babies weighing more than 6 lbs. 14 ozs., or more than 3100 gms. were labelled as overweight babies.

Out of 9,748 patients (Table 6), 113 delivered twins and two delivered triplets. Thus total number of births were 9,865. Out of these 9,865 babies, 1,513 weighed more than 6 lbs. 14 ozs. Thus overall incidence of overweight babies was 16.32 per cent. There was increased incidence in the parity group V to VII as compared with parity II to IV, and a further increase in the group VIII and above as compared with parity V to VII.

Premature babies

Various authors have given variable reports regarding the incidence of premature babies among multiparae. Nelson and Sandmeyer (1958) reported that premature babies occur less commonly in para VIII and above, than in the general group. Krebs (1956) concludes that grand multiparae are more prone to premature delivery than less parous women.

In the present series babies weighing less than 4 lbs. 14 ozs. are labelled as premature (Table 6). Incidence of premature babies was highest among primiparae, i.e. 31.66 per cent. Incidence of prematurity shows a

TABLE VI

Weight of Babies

Parity	I	II to IV	V to VII	VIII and above	Total
Total number of births	2122	5061	2230	452	9865
Babies above 5 lbs. 15 ozs.	150 (7.06)	760 (15.01)	494 (22.15)	109 (24.15)	1513 (16.32)
Babies less than 4 lbs. 13 ozs. .	672 (31.66)	942 (18.42)	329 (14.5)	60 (13.21)	2003 (19.44)

Figures in brackets indicate incidence per cent.

progressive fall from parity second to parity eight and above.

Perinatal mortality

Schram (1954), Nelson and Sandmeyer (1958), Petry and Pearson (1955), have reported that perinatal mortality was high among grand multiparae, para VIII and above as compared with other parity, while Fuchs and Peretz (1961) do not consider incidence of perinatal mortality different in the two groups.

In the present series the incidence of perinatal mortality was highest among primiparae (Table 7). The incidence did not show much difference among parity groups II to IV and V to VII. Perinatal mortality showed significant rise among parity groups VIII and above.

TABLE VII

Perinatal Mortality

Parity	I	II-IV	V-VII	VIII +	Total
Total number of births	2122	5061	2230	452	9865
Perinatal deaths	218	343	148	41	750
Incidence per cent	10.27	6.77	6.63	9.07	7.59

Comments and conclusions

Only some complications of pregnancy and labour, like anaemia, antepartum haemorrhage and operative delivery, have shown significant increase among multiparae. Toxaemia of pregnancy, malpresentations, third stage complications, prematurity, maternal mortality and perinatal mortality did not show any significant increase in the incidence as parity increases.

As far as anaemia is concerned, one can term para V onwards as a grand multipara, but for antepartum haemorrhage parity VIII and above can be considered as dangerous multiparity.

Incidence of babies weighing more than 6 lbs. 14 ozs. was significantly high among parity V and above.

Operative interference required in parity VIII and above is significantly high when compared with lower parity.

The impression that grand multiparity automatically means a risky pregnancy does not have much ground. It is true that certain complications like antepartum haemorrhage and operative delivery and perinatal mortality are significantly increased in parity VIII and above and anaemia and overweight babies in parity group V and above. It is also true that most of the complications like toxaemia of pregnancy malpresentations and malpositions, premature deliveries, third stage complications are not significantly increased with parity. It is noteworthy that maternal mortality does show an apparent increase with increasing parity but it is statistically not significant.

In conclusion, a pregnant patient

with parity of VIII and above carries a significantly higher risk of antepartum haemorrhage and operative deliveries, apart from her greater liability to suffer from anaemia and tendency to overweight babies. Her chance of developing other complications is not significantly higher than that of a patient with lesser parity.

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