

GRAND MULTIPARITY IN SINGAPORE WOMEN

By M. Y. Dawood, R. Ng and S. S. Ratnam

SYNOPSIS

One thousand, two hundred and twenty-six grand multiparas (para 5 and above) were delivered in the University Department of Obstetrics and Gynaecology, Kandang Kerbau Hospital during the year 1969. The incidence of grandmultiparity was 12.0 percent. The ethnic group distribution of grandmultipara was Chinese 69.8%, Malays 20.6%, Indians 8.6% and others 0.9%. Two-thirds of the grandmultiparas were para 5 to 7 (65.6%), 26.7% were para 8 to 10 and 7.7% were para 11 and above. More Malay and Indian grand multiparas were between 20 to 30 years than Chinese. The incidence of anaemia in grand multiparas was 8.6 percent with iron deficiency being the commonest. Antepartum haemorrhage occurred in 3.9%, which is three times higher than the overall incidence of 1.3% seen in our Obstetric patients. Unstable lie was observed in 2.4%, while hypertension occurred in 18.2%. One thousand, one hundred and ten patients had spontaneous labour, 103 had surgical induction of labour and 13 had elective Caesarean section. Post-partum maternal complications included post-partum haemorrhage, puerperal pyrexia, urinary tract infection and two cases of uterine rupture.

INTRODUCTION

In spite of much emphasis by Governments of developing countries on small families, the grand multipara still remains a common obstetric problem. The French and British applied the term "grand multipara" to any woman who has had five or more viable pregnancies while the Americans referred to parity seven and above. In Singapore, the grand multipara exists to a considerable extent. The obstetric problem of the grandmultipara is poorly dealt with in standard text books and only a few reviews exist (Feeny, 1953; Israel and Blazar, 1965; Lean, 1965). This paper reviews our experience with the grand multipara in relation to modern obstetric care.

MATERIALS

All cases of para 5 and above delivered in the University Department of Obstetrics and Gynaecology, Kandang Kerbau Hospital, Singapore, during the year 1969 were reviewed. They were analysed for incidence, racial distribution, parity, age, antenatal complications, mode of onset of labour, duration of labour, mode of delivery, post-partum maternal complications and outcome of the foetus.

Department of Obstetrics and Gynaecology, University of Singapore, Kandang Kerbau Hospital, Singapore 8.
M. Y. DAWOOD, M.B.Ch.B., M.R.C.S., L.R.C.P., M.Med. (O & G), M.R.C.O.G., Lecturer.

R. NG., M.B., B.S. M.Med. (International Medicine), M.R.A.C.P., M.R.C.P. (U.K.), Formerly House-Surgeon.

S. S. RATNAM, A.M., M.D., F.R.C.S. (E. Edin. Glasg.), F.R.C.O.G., F.A.C.S., Professor.

Incidence

There were 1,226 cases of grand multipara out of 10,176 deliveries in 1969, giving an incidence of 12.0 percent. This is a considerable drop from an incidence of 28.2 percent reported by Lean (1965) in Singapore but three times higher than the incidence of 4.3 percent in the U.S.A. (Israel and Blazar, 1965).

Race

There were 856 Chinese (69.8%), 253 Malays (20.6%), 106 Indians (8.6%) and 11 from the minority races of Singapore (0.9%) (Table I). The racial distribution of the population in Singapore was 74.6% Chinese, 14.4% Malays, 8.9% Indians and 2.1% of other ethnic origin. Thus there were more Malays amongst the grandmultipara.

TABLE I
RACIAL DISTRIBUTION OF GRAND
MULTIPARA & POPULATION
OF SINGAPORE

Race	Grand multipara	General Population
Chinese	856 (69.8%)	74.6%
Malays	253 (20.6%)	14.4%
Indians	106 (8.7%)	8.9%
Others	11 (0.9%)	2.1%

Parity

There were 804 cases of para 5-7 (65.6%), 32 cases of para 8-10 (26.7%) and 94 cases of para 11

TABLE II
AGE, PARITY AND ETHNIC GROUP OF SINGAPORE GRAND MULTIPARA

Age (in Years)	Parity											
	5-7				8-10				11 and More			
	*C	M	I	O	C	M	I	O	C	M	I	O
20	0	0	0	0	0	0	0	0	0	0	0	0
21-25	13	11	12	0	0	0	1	0	0	0	0	0
26-30	150	43	19	1	7	28	5	0	0	3	1	0
31-35	223	54	24	4	55	20	12	1	1	7	3	1
36-40	159	25	15	4	103	20	8	0	18	14	2	0
40	46	1	0	0	53	14	1	0	28	13	3	0
All Cases	591	134	70	9	218	82	27	1	47	37	9	1
	804 (65.6%)				328 (26.7%)				94 (7.7%)			

* C = Chinese.
M = Malay.

I = Indian.
O = Other Ethnic Groups.

and more (7.7%) (Table II). When the parity was analysed in relation to the racial distribution, it was observed that there were no significant differences in the 3 races. However, there were slightly more Malays and Indians who were para 8 and above.

Age

Table II shows the distribution of grand multipara in relation to age, race and parity. The majority of the patients were between 30-40 years of age. In the age group 20-30 years, there were more Malays and Indians than Chinese who were para 8 to 10. This may be accounted for by marriage at an earlier age in Malays and Indians.

Antenatal Complications

(a) Anaemia

One hundred and six out of 1,226 were anaemic when first seen (as defined by a haemoglobin level of below 10 grams percent), giving an incidence of 8.6 percent. The majority of the anaemia were due to iron deficiency (86 out of 106 cases). Three patients had mixed iron deficiency and megaloblastic anaemia while in 16 cases the cause of anaemia was not conclusively determined. Table III shows the number of grandmultipara cases with anaemia amongst the main ethnic groups while Table IV shows the steadily increasing incidence of anaemia with increasing parity. Indian grandmultipara have a higher incidence of anaemia than the Malays who are intermediate and the Chinese who have the lowest incidence. The difference in incidence between the various races is probably due to cooking and

dietary habits as well as differences in socio-economic status.

TABLE III
ANAEMIA IN GRAND MULTIPARAS OF THE MAJOR GROUPS OF SINGAPORE

Ethnic Groups	No. of Grand multipara	Number of Cases with Anaemia
Chinese	856	57* (6.6%)
Malays	253	31 (12.3%)
Indians	106	17 (16.0%)
Others	11	1 (9.0%)

*Figures in brackets represent percentages.

(b) Antepartum Haemorrhage

There were 48 cases of antepartum haemorrhage with an incidence of 3.9%. Eighteen were due to placenta praevia, another 18 due to abruptio placentae and 12 of unidentifiable causes. This is about 3 times higher than the overall incidence of antepartum haemorrhage of 1.3% seen among all cases in the University Department.

(c) Unstable Lie

Unstable lie was observed in 2.36% of the cases studied (29 out of 1,226 cases). More than half of them were due to grandmultiparity per se without any pelvic obstructive cause or uterine abnormality.

(d) Hypertension

Hypertension, as recorded by a blood pressure of 130/90, was present in 223 cases (18.2%). All of

them were due to toxæmia of pregnancy since the blood pressure had settled to less than 130/90 millimetres of mercury six weeks after delivery.

Other Antenatal Complications

Five cases of diabetes, 8 twin pregnancies and one triplet pregnancy were seen amongst the grand multipara studied.

TABLE IV
RELATIONSHIP BETWEEN ANAEMIA AND
PARITY IN GRAND MULTIPARAS

Parity	Total No. of Cases	No. of Cases with Anaemia
5—7	804	60* (7.5%)
8—10	328	28 (8.6%)
11 and more	94	18 (19.1%)

*Figures in brackets represent percentages.

Labour

Spontaneous onset of labour occurred in 1,110 patients, while 103 patients had surgical induction of labour and 13 patients had elective Caesarean section. The indications for induction of labour are listed in Table V while the indications for elective Caesarean section are shown in Table VI.

TABLE V
INDICATION FOR INDUCTION OF
LABOUR IN GRAND MULTIPARA

Indication	Number of Cases
1. Hypertensive Disorder of Pregnancy	58
2. Prolonged Pregnancy	28
3. Premature Rupture of Membranes	3
4. Diabetes Mellitus	1
5. Others	13
All Cases	103

TABLE VI
INDICATIONS FOR ELECTIVE CAESAREAN
SECTION

Indication	Number of Cases
Antepartum Haemorrhage	12
Two previous LSCS	1
All Indications	13

Normal vaginal delivery occurred in 1,103 grandmultiparas, Caesarean section in 55 cases (13 elective and 42 emergency), assisted delivery in 18 cases, breech delivery in 43 cases, twin delivery in 6 cases and one triplet delivery.

Post-Partum Maternal Complications

Post-partum haemorrhage due to atony of the uterus was the most common complication of the third stage of labour and occurred in 38 cases. Seven patients had puerperal pyrexia, 6 developed urinary tract infection and 2 patients had rupture of the uterus. Both cases of uterine rupture had oxytocin infusion but were essentially due to undetected cephalo-pelvic disproportion.

Foetal Outcome

There were altogether 20 perinatal losses. Thus the uncorrected perinatal mortality in this group of grandmultiparity was 16.1 per 1,000. Nine were macerated stillbirths, 10 were fresh stillbirths while one was a neonatal death. Congenital abnormality was uncommon and occurred only in 3 cases. The overall perinatal mortality for the same period of time was 20.3 per 1,000 (unpublished departmental observation). Thus the perinatal mortality in grandmultiparas is lower than the overall perinatal mortality.

DISCUSSION

The incidence of grandmultiparity in Singapore has fallen appreciably from 28 percent (Lean, 1965) to 12 percent over a period of four years. With rapid education, family planning campaigns, legalised abortions and introduction of discouraging measures for large families, the incidence of grandmultiparity in Singapore can be expected to drop further. Nonetheless, there will be a hard core of grandmultiparas who will resist contraceptive advice and sterilisation and continue to have frequent recurrent pregnancies.

Anaemia, ante-partum haemorrhage, unstable lie and hypertensive disorders of pregnancy con-

TABLE VII
MODE OF DELIVERY IN GRAND
MULTIPARA

Normal Vertex Delivery	1,103
Assisted Delivery	18
Breech Delivery	43
Caesarean Section	55
Twin Delivery	6
Triplet Delivery	1
Total Delivery	1,226

tinue to be the principal hazards during the antenatal period in grandmultiparas. Twin pregnancies do not appear to rise with increasing parity in Singapore women. With early antenatal booking and good antenatal care, these complications can be kept to a minimum by early detection and treatment.

The Caesarean section rate of 4.6 percent in grandmultiparas (56 out of 1,226 cases) is not higher than the usual Caesarean section of 4 to 5 percent in the University Department. The other types of delivery performed are essentially similar as in the non-grand multiparas.

Post-partum haemorrhage was relatively uncommon. Although it has been accepted in the past that the grandmultiparous uteri will react to continuous

increasing oxytocin infusion by rupturing, in this series the two cases of ruptured uteri were due to undetected cephalopelvic disproportion. This aspect of grand multiparity is discussed elsewhere Dawood, Ng and Ratnam (Dawood, Ng, and Ratnam 1974). Apart from the usual arguments in favour of small planned families, grand multiparity undoubtedly carries significant obstetric hazard to the patient.

REFERENCES

1. Dawood, M.Y., Ng, R. and Ratnam, S.S.: "Oxytocin Stimulation and Uterine Rupture in the Grand multipara." Singapore Medical Journal, 1974.
2. Feeney, J.R.J.: Irish Medical Association, 32, 36, 1953.
3. Israel, S.L. and Blazar, A.S.: American Journal of Obstetrics and Gynaecology, 91, 3, 1965.
4. Lean, T.H.: Bulletin of the Kangang Kerbau Hospital, Vol. 4, No. 2, p. 55. 1965.