

MATERNAL OBESITY AND PREGNANCY OUTCOME

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SUMMARY

The effect of obesity in 30 pregnant women weighing either more than 90 Kg or with an obesity index of more than 130% who were delivered of their infant's were studied at UCMS & GTB Hospital. Analysis of cases revealed a significantly high incidence of antenatal complications like hypertension, diabetes and UTI. Average birth weight was 3.1 Kg with 8/30 cases delivering more than 3.5 Kg weight babies. Caesarean section rate of the study group was high at 23.3%. No perinatal or maternal mortality was observed in the study group.

INTRODUCTION

Obesity is a common nutritional problem of the West comprising as high as 25% of total pregnant population. In a developing country like India such overfed expectant mothers are hard to find. Therefore there is paucity of data on this subject in Indian literature. How exactly an obese woman behaves during pregnancy and labour and what effects does obesity have on the growing fetus are some of the un-answered questions. The purpose of the study was to examine pregnancy risks and neonatal outcome associated with maternal obesity.

MATERIAL AND METHOD

A short term prospective study at U. C. M. S. & G. T. B. Hospital was conducted from April to December, 1992. Thirty obese women upto 20 weeks of gestation were selected for the study. The selection criteria included a weight of 90 kg or more during pregnancy or an obesity index of more than 130%. Routine investigations like haemoglobin, urine routine & culture, Blood sugar/G. T. T., and ultrasonography were done for all patients. The antenatal period was closely supervised and complications managed. No patient had dietary restriction or any kind of medical or surgical therapy for obesity in antenatal period. The labour pattern, mode of delivery, post natal behaviour & neonatal outcome were noted and data analysed.

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OBSERVATIONS

Out of 30 study cases, 19 women had android type of obesity (waist : hip > 0.85) and 12 had Gynaecoid fat distribution (waist : hip < 0.85) measured postnatally. 50% of obese pregnant women were more than 30 yrs. of age (Table I) and 50% of them were multiparous (Table II).

All the study cases were booked before 20 weeks. The main complications encountered were difficulty in clinical diagnosis of pregnancy in 1st trimester (7/10), subsequent palpation of fundal height and localisation of fetal heart. Seventy percent of patients had associated hypertension and 23.3% had gestational diabetes. Urinary tract infection, malpresentation and umbilical hernia were some of the other associated complications (Table III). Maternal obesity did influence the

course of labour. There was a high incidence of induced labour (10/30). Table III depicts that 7/30 patients underwent caesarean section and 8/30 had instrumental vaginal delivery. The indications for caesarean section were mainly cephalo pelvic disproportion and prolonged labour.

Maternal obesity seemed to influence the birth weight of newborn. The average birth weight of the study group was 3.1 Kg and 8/30 babies weighed more than 3.6 kg at birth. Incidence of low birth weight babies was comparable to nonobese pregnant population.

Most of the study group had uneventful puerperium. Two cases had superficial wound gaping which required resuturing. No maternal or perinatal deaths were observed in the studied population.

Table I

Age Distribution

Wt in Kg	21-25	26-30	31 & above
71 - 80	3	4	8
81 - 90	—	3	3
91 and above	2	3	4

50% of obese women were more than 31 yrs old

Table II

Distribution of Cases Parity

Wt / Kg	Primi	2nd	3rd & above
71 - 80	4	3	8
81 - 90	1	2	3
91 and above	2	3	4

50% of total cases were multiparous

Table III

Antenatal Complication

Complication	No.	%
Hypertension (Proteinuric)	21	70
Diabetes	7	23.3
UTI	5	16.6
Malpresentation	5	16.6
PROM	2	6.6
Umbilical hernia	2	6.6

Table IV

Labour Outcome

Mode of delivery	No.
FTND	15
Vacuum / Forceps	7
LSCS	8

Table V
Neonatal Outcome

Obesity and Birth weight				
Wt in Kg	2.1-2.5	2.6-3	3.1-3.5	3.6
71-80	2	4	6	3
81-90	1	1	3	1
91 and above	2	1	2	4

DISCUSSION

Different definitions and criteria have been used by various workers to define obesity in pregnant population, more than 85 percentile was used by Kemsley which corresponded to 110th centile of Metropolitan Life Insurance table. Body weight more than 20% above normal weight for height is often used. Some authors have used actual body weight more than 80 kg (175 lbs) during pregnancy, others used an obesity index > 130%. In this study selection criteria used were an absolute wt. of 90 Kg. or more, or an obesity index of > 130%.

Association of various antenatal complications with maternal obesity have been documented by various investigators. A significantly high incidence of hypertension (70%), probably because of the presence of more elderly and multiparous patients, was observed in the present study. Garbaciak (1985) in his study commented that after matching all the variables obesity as a single factor was responsible for increased risk of hypertension, diabetes and UTI. Some of the complications like anaemia, placenta praevia,

abruptio placenta and premature labour were very infrequently associated with obesity and so was observed in study cases. Increased incidence of operative delivery both vaginal and by abdominal route was attributed to the presence of large fetuses and more post dated pregnancy. Sixty six percent of obese women gave birth to more than 3.1 kg babies which is much above the average Indian birth weight. Similar observations were noticed by (Emerson 1962, Eastman 1968 and Gross 1980). They showed that prepregnancy weight and optimal weight gain were two important factors which acted independently on infant birth weight.

Overall outcome including maternal and perinatal mortality in our series was excellent. No mishaps occurred. However few workers have reported increased maternal mortality rates (Maeder E. C. et al 1975), others have contradicted and have shown no difference in morbidity patterns of obese and non obese pregnant women (Edward L. E. et al 1978). Multicentric larger studies are required on this subject to give authentic report on comparative data on above subject.

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