SUMMARY AND CONCLUSION

The present study was carried out to determine the value of cord serum Ig M in intrauterine growth retarded babies and their respective mothers. The cases were selected from May, 1990 to June, 1991, in the Department of Paediatrics, M.L.B. Medical College, Jhansi (U.P.). The study group comprised of 24 full term (gestational age between 37-41 weeks; weighing \( \geq 2500 \) gms at birth) intrauterine growth retarded babies, in whom no obvious cause for growth retardation was evident.

IUGR babies were divided into three groups according to their birth weight (using the centile curves of Singh et al, 1978), viz Group A - severe IUGR (babies weighing below 2 S D or 3rd percentile for their gestation); Group B - Mild IUGR (babies weighing between 3rd and 10th percentile for their gestation); Group C - IUGR babies with birth weight more than 10th percentile for their gestation.

The primary aim of this study was to determine the level of cord serum Ig M in IUGR babies and to observe its correlation, if any, to sex, birth weight of the newborn and also to respective mothers serum Ig M. An attempt was made to compare the anthropometric measurements viz head circumference, chest circumference, weight and length of IUGR babies to that of normal fullterm babies.
Besides evaluating cord serum Ig M level, thorough physical examination was done in each case. Gestational age of the baby was calculated by counting the number of completed weeks from the first day of last menstrual period to the birth of baby. Gestational age was confirmed by doing physical examination using the criteria laid down by Dubowitz et al (1970). The observations and inferences drawn from this study are summarized below:

**SERUM Ig M VALUES IN CORD AND MOTHER'S BLOOD**

Serum Ig M levels were estimated in both IUGR babies and their respective mothers. In three babies Ig M levels were less than 20 mg/dl with a mean of $16.66 \pm 1.38$ mg/dl. Eight babies had Ig M level in between 21-30 mg/dl with a mean of $25.00 \pm 1.00$ mg/dl. Only 2 babies had Ig M level ranging between 31-40 mg/dl with a mean of $34.00 \pm 0.00$ mg/dl while 11 babies had Ig M level more than 40 mg/dl with a mean of $46.20 \pm 4.22$ mg/dl. Taking 20 mg/dl as the highest limit of normal cord Ig M level, 21 out of 24 cases had raised Ig M. Cord Ig M level in the study generally rose with the increase in maternal serum Ig M. In the control group, however, cord Ig M did not show a consistent rise with the increase in maternal Ig M level.
An important observation was that 13 (54.17%) cases of the study group had cord Ig M more than 30 mg/dl while none in the control group had values more than 30 mg/dl.

The mean cord and maternal Ig M levels in the study and control group were 35.37 ± 13.03 mg/dl, 170.66 ± 62.89 mg/dl and 19.20 ± 8.00 mg/dl, 98.88 ± 21.43 mg/dl respectively. The differences between the cord blood and maternal blood in either group were statistically significant (p < 0.01).

**RELATION WITH BIRTH WEIGHT**

The relation of Ig M with birth weight was studied by dividing the cases into three groups. Group A—Severe IUGR, consisted of 3 babies (12.51%) with mean cord and mean maternal Ig M values 38.00 ± 9.93 mg/dl and 134.66 ± 32.42 mg/dl respectively. Group B (Mild IUGR) consisted of 16 cases (66.66%) with mean cord and maternal Ig M values 33.06 ± 12.66 mg/dl and 162.25 ± 63.96 mg/dl respectively. Group C had 5 (20.83%) cases with values 41.20 ± 12.81 mg/dl and 219.2 ± 43.66 mg/dl respectively. On comparison of above mentioned groups, it was found that Group B had lowest mean cord Ig M. Excluding Group A cases with a mean cord Ig M 38.00 ± 9.93 mg/dl, there was a rising trend of mean Ig M with the shift in birth weight group to higher side. However, mean Ig M values in mothers increased as the birth weight of their babies improved.
RELATION WITH SEX

The present study comprised of 12 male and 12 female babies. On statistical analysis, sex difference in cord Ig M values was not significant in the control and study group of cases, which was similar to that observed by other workers in the field.

ANTHROPOMETRIC PROFILE OF CASES

When characteristics of IUGR babies were compared with control group of cases, it was found that IUGR babies were lighter, smaller and they had lower head and chest circumference values. The differences in all the anthropometric measurements were highly significant ($p \leq 0.001$) when two group were compared.