SUMMARY AND CONCLUSIONS

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This study was conducted on I8 term newborns, I2 term newborns with a birthweight ranging from 2K 800 to 3kg 200, I9 low birthweight with normal gestational age, I8 preterm babies and 20 newborns of diabetic mothers.

Complete clinical examination was performed

Insulin and Somatomedin (SM) were estimated in the cord Sera of these babies.

Somatomedin was estimated by the Hall method using radioactive sulfate (S^{35} uptake) of pelvic rudiment of chick embryo, I2 days duration. The normal level in full term newborn is taken as I00% activity and the other groups were compared to this level.

The mean insulin levels in cord blood were significantly lower in the low birthweight and premature groups compared to the control, thus reflecting the participation of insulin in the process of fetal growth.

The mean insulin leveld were significantly elevated in infants of diabetic mothers compared to the control. Thus,fetal insulin is related to fetal size and is am inportant "growth Factor

The significant positive correlation between birthweight, body length, skull circumference and serum insulin concentrations in cord blood, denotes that insulin emerges as the hormone most clearly related to Fetal growth.

The mean Somatomedin levels in cord blood were significantly lower in the low birthweight and premature compared to the control and this reffects the participation of Somatomedin in the process of Fetal growth.

The highly significant correlation between SM cord blood to birthweight and gestational age. Suggest that the Somatomedins may be additional contributory Factors in the growth and development of the human Fetus.

The highly significant correlation between insulin and Somatomedin in the low birthweight and premature group confirm that insulin increases somatomedin production . The detailed mechanisms of the effects of insulin on somatomedin production need to be clarified by further Studies. Also a highly

significant correlation of insulin to somatomedin was found in infants of diabetic mothers.These results documents that insulin and somatomedin are closely interrelated in the process of Fetal growth.

A strong positive correlation exists between the blood sugar of the mother and her infant at the moment of birth. Mean blood glucose level during later part of pregnancy in non diabetic women, in long term and short - term treated diabetic showed a positive correlation with the mean birthweights of their infants.

A significant correlation was found between cord glucose level and infant birthweight in the low birthweight , premature and diabetic group. Thus a Strong correlation exists between cord glucose level and infant birthweight.