

SUMMARY

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In this essay, I have attempted to review the present state of knowledge on the anatomical, physiological and functional developments of the foetal endocrine glands throughout gestation and how soon these glands begin to form and function after conception.

I have also tried to review the recent developments on the hormonal regulation of foetal and neonatal growth.

I have placed particular emphasis on the roles of growth hormone, insulin, sex hormones, somatomedin and other hormones in foetal growth.

The inaccessibility of the foetus and the physical and ethical constraints on the study of its growth have resulted in slow progress. Furthermore, the opportunity for the foetus to benefit from homologous hormones from a variety of sources has made it difficult to assess the effect

of withdrawal of individual hormones.

Many of the advances made have resulted from attempts to determine hormone concentrations in fetal blood, identify hormone binding by fetal tissues, and examine the effects of natural or experimentally induced deviations in hormone availability.

In the future, attention should be focused on developing study models which better isolate the fetus from the influence of multiple, homologous hormones.

Progress should also come as the result of more detailed study of the influence of individual growth factors on in vitro growth of fetal cells and tissues, assessment of control mechanisms for growth factors in the fetus and experiments directed at recognizing the complex interactions between individual growth factors and between growth factors and hormones.