HISTOLOGICAL STUDY ON THE PRENATAL AND NEONATAL DEVELOPMENT OF THE HUMAN UTERINE BODY AND UTERINE TUBES

THESIS
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OF MASTER DEGREE
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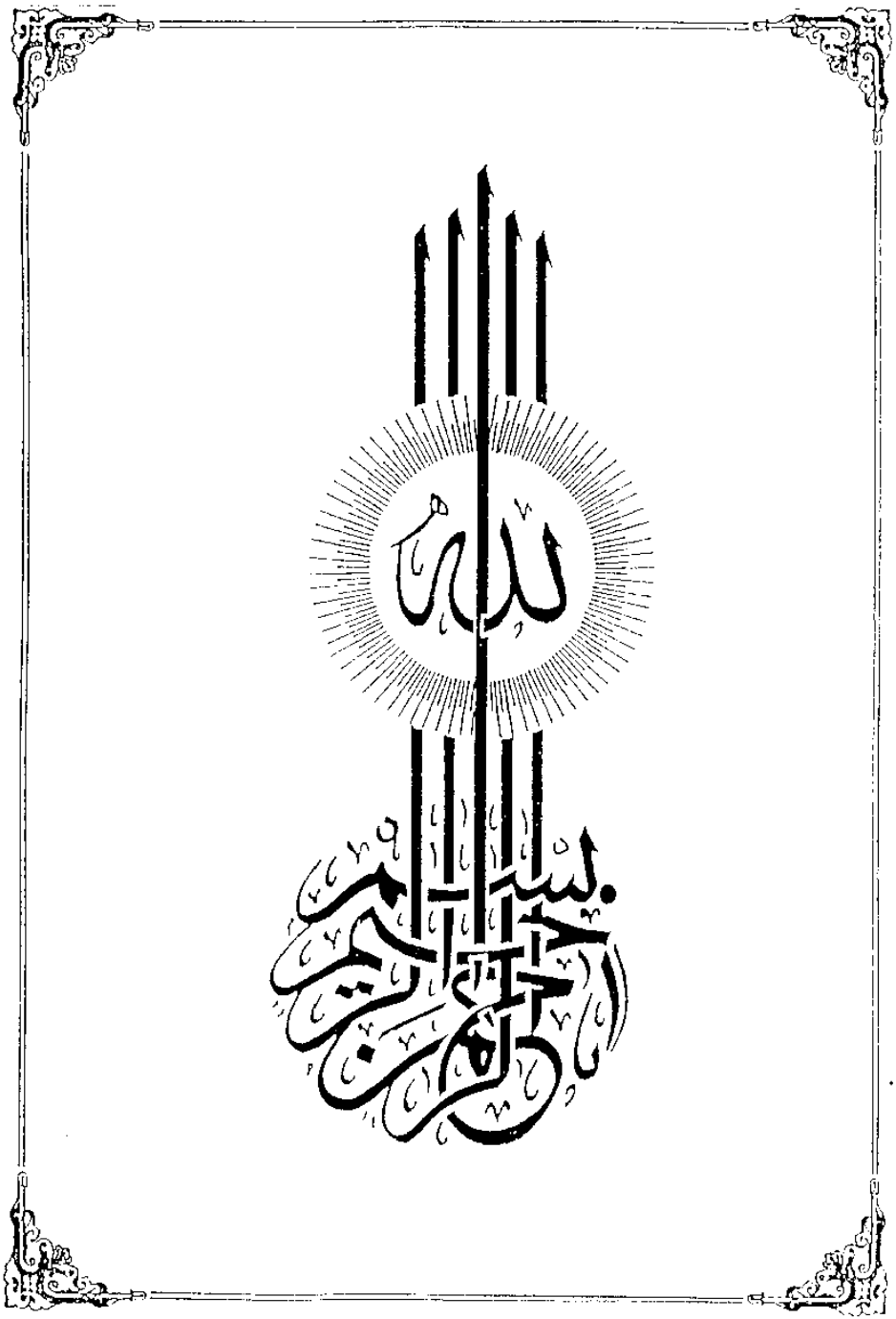


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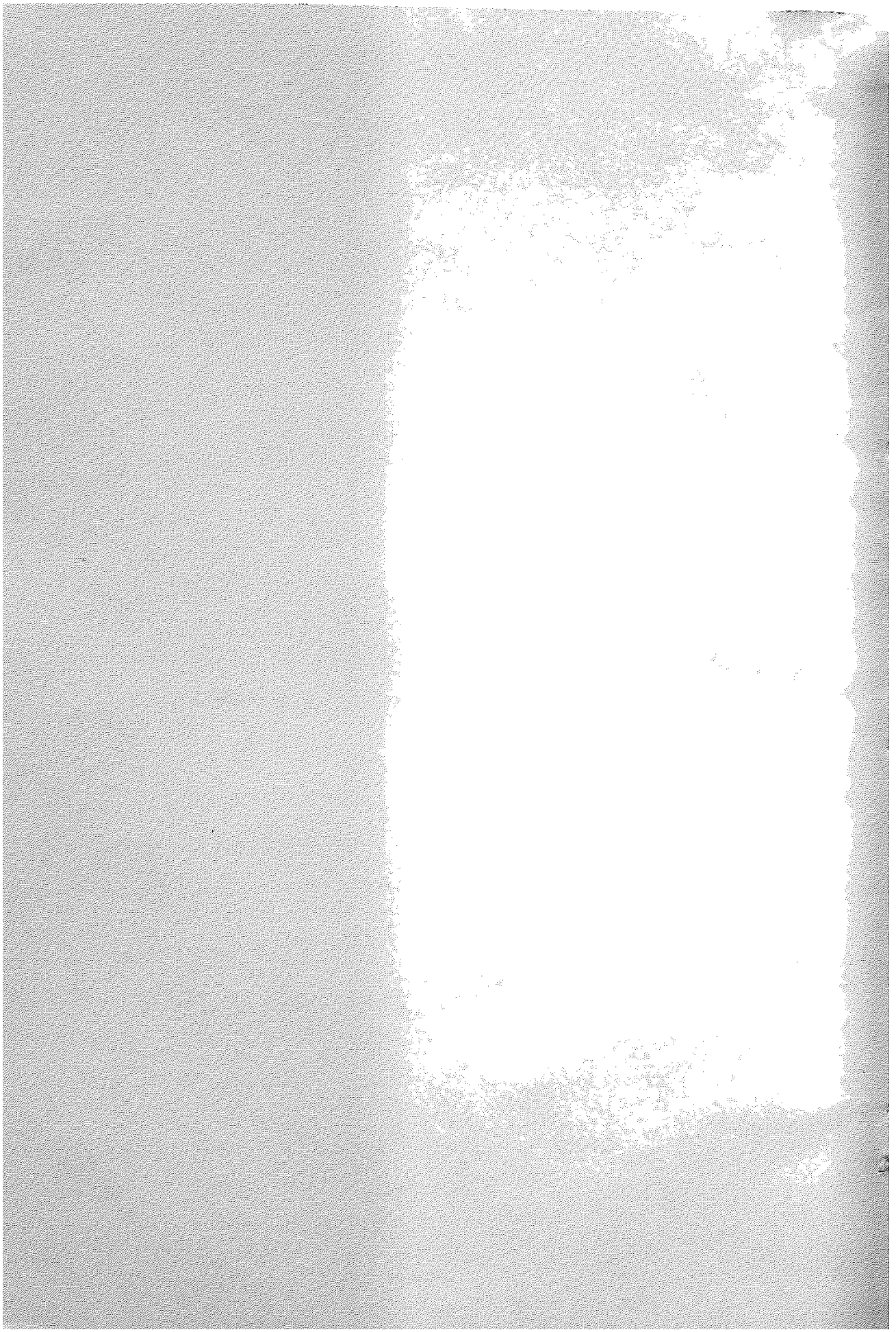
INTRODUCTION AND AIM OF THE WORK



NTRODUCTION AND AIM OF THE WORK

During the early stages of uterine development , the genital canal was found to be formed by the fusion of paramesonephric ducts . The eventual shape of the uterus was the result of proliferation of the surrounding mesenchymal cells . However , differentiation of the myometrium , and endometrial stroma during the later stages of foetal development was not clearly defined ***[Konishi , Fujii , Okamura and Mori 1984]***.

The cellular heterogenecity within the uterus which was not widely investigated in the past , had to be seriously considered since 1- 2% of women had abnormal uterine development due to non unification of the Mullerian ducts in the embryonal period ***[Cunha , Chung , Shannon , Taguchi , and Fujii , 1983 ; and Funk and Fendel , 1988]***.

Brody and Cunha (1989) stated that the uterine development in the perinatal period occurred through a reciprocal epithelial - mesenchymal interaction . So , teratogenic agents might elicit profound abnormalities of uterine epithelium , endometrial stroma , and / or myometrium , leading finally to infertility .

Furthermore , the functional uterine capacity was determined in part by success of growth , morphogenesis , and cytodifferentiation of uterine tissues . ***[Bartol , Wily , Spencer , Vallet and Christensson , 1993]***.

The uterine tubes provided the environment for sperm transport , and capacitation in addition to oocyte transport , and maturation , fertilization , and early embryonic cleavage . Gamete interactions in the tube occurred in

contact with the tubal epithelium where its secretion might play a role in early reproductive events occurring within the oviduct *[Ellington ,1991 ; and Rapisarda , Mavrogianis , Bowman , Fazleabas and Verhage , 1993]*.

During the last years , considerable new knowlege was obtained about the uterine tubal structure and function . Reviewing the available literature, it was found that special attention was paid to the histology of the human adult uterine tube with less concentration on its picture during prenatal , and neonatal periods .

So , the aim of this work is to study the normal morphogenesis , and development of the uterus that will serve as a basis for understanding the abnormal events taking place during the perinatal life . Concurrently , the histological picture of the uterine tubes will be investigated during the various stages of development .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REVIEW OF LITERATURE

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I . Embryology

The female ducts (paramesonephric or Mullerian ducts) were found to play an important role in the development of the female reproductive system , but they did not begin to develop until the sixth gestational week (g .w.) . Each was known to commenc as a groove like invagination (the female duct groove) of the coelomic epithelium lateral to the mesonephric ridge near its cranial end. the blind end of this groove grew caudally as a solid rod of cells which acquired a lumen as it lengthened . By the 8th g . w. , it reached the caudal end of the mesonephros where it turned medially ventral to it to enter the genital ridge . In the genital ridge , it bent caudally in close apposition to its fellow on the opposite side .

This was followed by meeting of the paramesonephric ducts , and their fusion in the urogenital septum . The fusion was initially partial , but gradually the septum disappeared leaving a single utero - vaginal canal .

Each paramesonephric duct was found to be subdivided into three parts : a cranial longitudinal part , an intermediate transverse part , and a caudal longitudinal part . The cranial parts were mentioned to form the uterine tubes . The intermediate portions fused to form the uterus , while the caudal portions united , and contributed to the vaginal development .

The utero - vaginal canal ,and cells derived from its lower end gave rise to the epithelial lining of the uterus . The mesenchyme surrounding the fused Mullerian ducts formed the thick muscular coat of the uterus known as the myometrium , and its peritoneal covering ; the perimetrium .

The entire mesonephric system in female was found to undergo loss or atrophy . The fusion of the paramesonephric ducts to form the uterus , the retrogression of the mesonephros , and the descent of the uterine tube , in association with that of the ovary , resulted in the transformation of the urogenital mesentry into the corresponding broad ligament . The uterine tubes remained in the free edge of this ligament . ***[Hamilton and Mossman , 1972 ; and Moore , 1988]*** .