MATERNAL SERUM CREATINE KINASE AND CA-125 AS PREDICTORS OF TUBAL PREGNANCY

Thesis
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In Obstetrics & Gynaecology

رسالة

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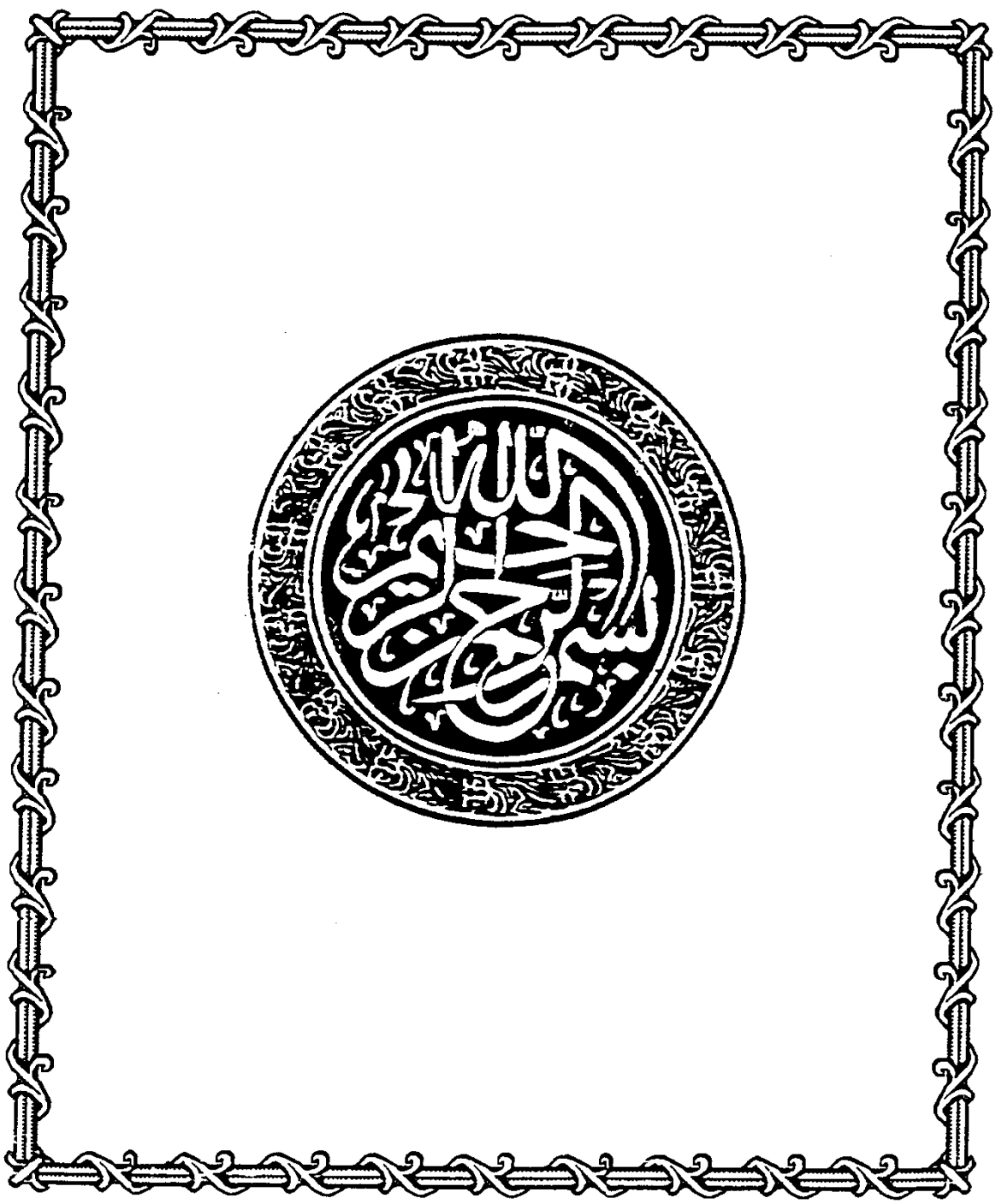

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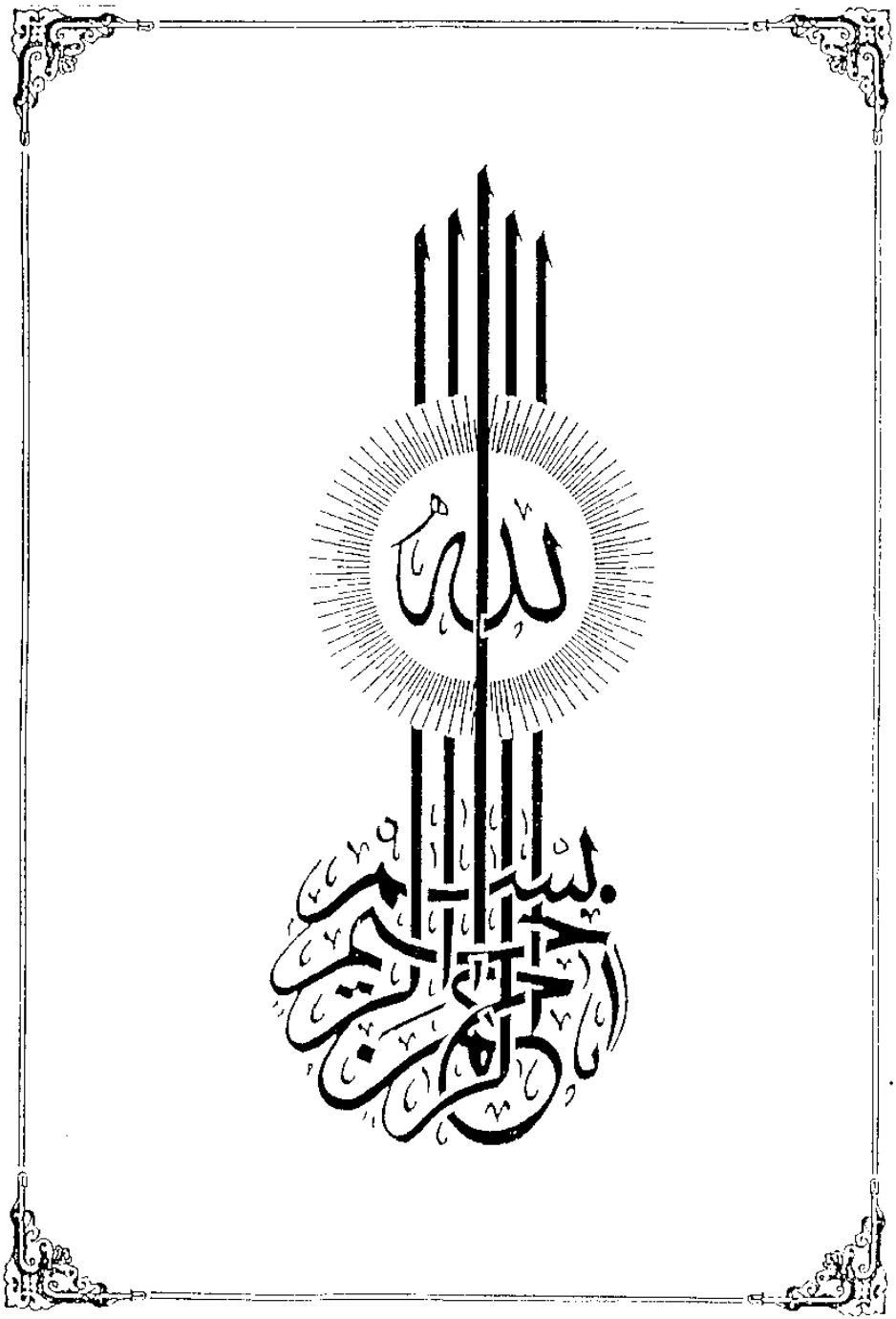

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Khaled Saiid Moussa

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DEDICATED TO THE SOUL OF MY FATHER

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INTRODUCTION

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INTRODUCTION

Tubal pregnancy remains a clinical challenge inspite of improvement in diagnostic tests and procedures ***(Lavie et al., 1993).***

The diagnosis of unruptured ectopic pregnancy is elusive and depends on clinical suspicion, characteristic physical and historic findings and the availability and proper interpretation of specific tests using the modern technology of serial HCG assay and pelvic ultrasound ***(De-Cherney, 1990).***

In the pathogenesis of tubal pregnancy, as the zygote penetrates the tubal epithelium, it lies adjacent to the muscular layer as the fallopian tube lacks a submucosal layer ***(Budowich et al., 1980).***

As the trophoblast invades the muscular layer of the fallopian tube, maternal blood vessels are eroded and blood leaks through the growing trophoblasts and damaged muscle layer. With the understanding of this process, so one of the serum markers of tubal pregnancy could be an increase in the muscle cell product creatine kinase released into the maternal blood stream after the cell damage ***(Lavie et al., 1993).***

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Creatine kinase is the most sensitive and specific enzyme that occurs in high concentration in the muscle and may leak into blood and serve as an indicator of muscle damage ***(Griggs et al., 1987).***

CA-125 is an antigenic determinant associated with mucin like glycoprotein that has a molecular weight exceeding 200.000 dalton. The source of this marker in pregnancy has been described to arise from decidua, the chorion and fallopian tube epithelium. Therefore CA-125 serum levels may be a useful marker in predicting pregnancy outcome ***(Check et al., 1990).***

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AIM OF THE WORK

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To correlate between the level of serum creatine kinase and CA-125 and tubal pregnancy for early detection of tubal pregnancy.

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REVIEW OF LITERATURE

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CHAPTER I

FALLOPIAN TUBE

1- Anatomy of fallopian tube

The two fallopian tubes are oviducts, which extends from the ovaries to the cornua of the uterus, one on either side. They are somewhat tortuous and their outer parts curve backwards . Each lies in the free upper border of the broad ligament and , when straightened, is 10 cm in length. Its lumen communicated with the uterine cavity at its inner end and with the peritoneal cavity at its outer end, and thus provides the final section of an open, or potentially open, canal which leads from the exterior to the abdominal cavity *(Tindall , 1987)* .

The fallopian tube is divided anatomically into 4 parts :

1-Interstitial portion :

The inner most part of the tube that traverses the myometrium to open into the endometrial cavity. It is the shortest and narrowest part of the tube, its length being the thickness of the muscle and its internal diameter being 1 mm or less. The tube is different here from its remainder in that it is without peritoneal coat and the outer longitudinal muscle layer is absent .

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2-Isthmus :

The straight and narrow portion adjacent to the uterus , measuring 2-3 cm. It has thick walls , but the lumen is so narrow that it will admit only the finest probe (1-2 mm in diameter).Its muscle wall contains both longitudinal and circular muscle fibers.

3-Ampulla :

The lateral , wider and longest part of the tube ,measuring 6-7 cm .The mucosa in this section of the tube is complex , with arborization of its fold .

4-Infandibulum :

The fimbriated extremity is a trumpet-shaped outer end of the tube with an opening into the peritoneal cavity. This opening is surrounded by fronds or fimbriae , one of which is longer than the others , directed towards the ovary .

The infandibulum is free of the broad ligament, with motile fimbriae enjoying a considerable range of movement that enables them to embrace the ovary, similar to the tentacles of an octopus *(Weingold , 1990).*

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Histological organization :

The wall of the fallopian tube consists of the following layers :

1-A mucus membrane .

2-A muscular layer .

3-A serosa .

1-Mucosa :

The mucosal lining is thrown into characteristic longitudinal folds or plicae . In the ampullae , the folds branch in a complex manner to divide the lumen into a labyrinth of spaces. In the isthmus,the folds rarely branch; in the intramural portion of the tube , the folds are low .

The epithelium consists of simple columnar cells , some of which are ciliated, whereas other are not. The non ciliated cells are narrow and peg-shaped and appear to be secretory in nature, contributing nutritive material for the ovum. Ciliated cells occur in small groups, alternating with cells that are not ciliated. The proportion of cells with cilia is greatest at the infandibulum and least at the isthmus . Most of cilia beat towards the uterus and are thought to play a major role in transportation of the ovum through the ampulla , to the ampullo-isthmic junction, the

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