TRANSVAGINAL ULTRASONOGRAPHY AND MAGNETIC RESONANT IMAGING IN UTERINE LESIONS

ESSAY

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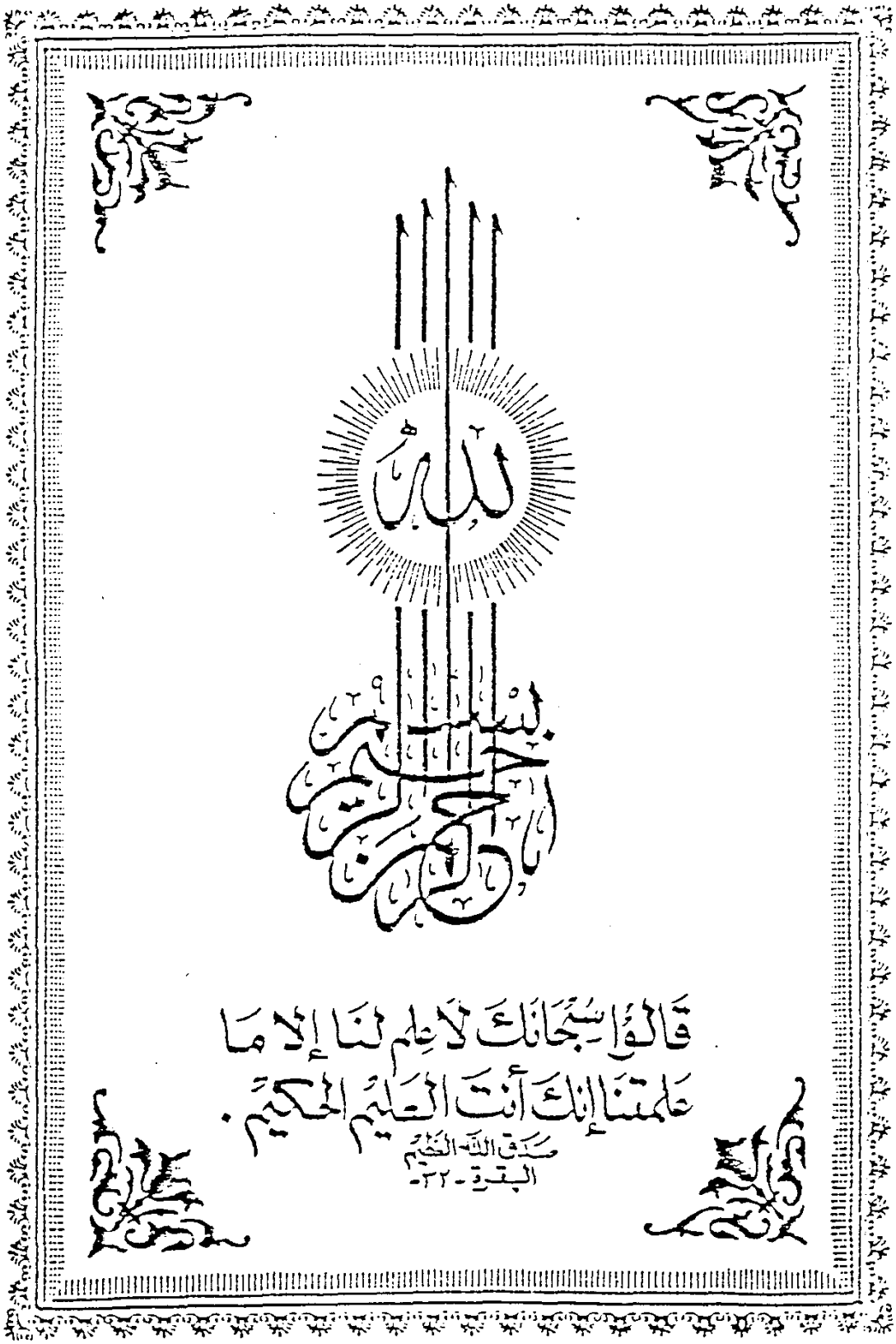

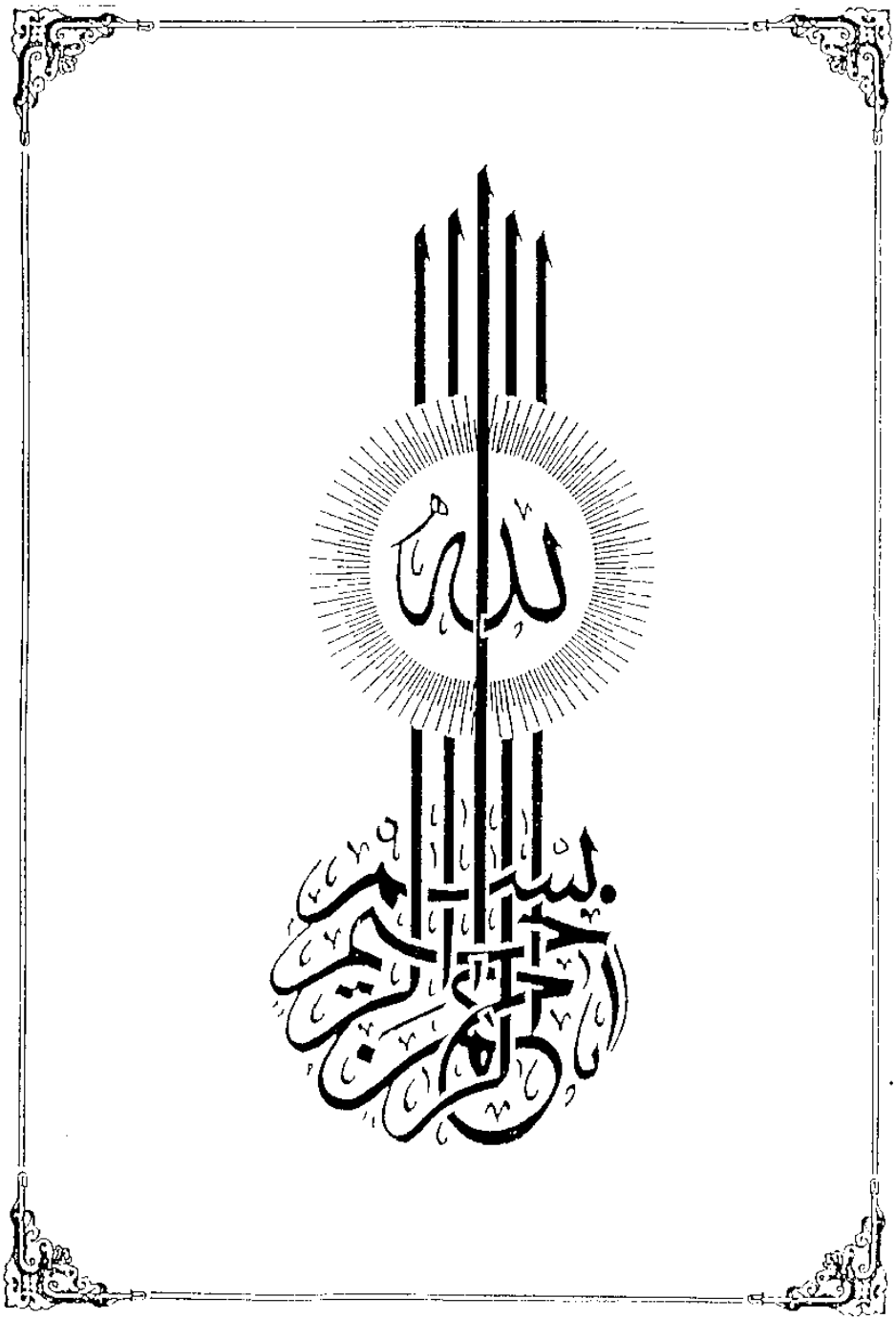

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TO...

MY PARENTS
AND
MY YOUNG FAMILY
DR. KHALED
MOHAMED MENAT ALLAH

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INTRODUCTION AND AIM OF THE WORK

1. Introduction and aim of the work

The uterus is considered as the most common organ in the female genital system that has many lesions and is the most common site of pelvic tumours accounting for 10% of cancer diagnosed in females.

Uterine lesions are important clinical problems which affect the female genital system and their early diagnosis and management is very important to avoid further development of more dangerous complications.

The different radiological and imaging modalities are used in the diagnosis of uterine lesions.

Each modality has its own role thus their use must be directed to obtain maximum informations, mean time to minimize the ivasive nature hazards and costs of examinations.

Transvaginal ultrasonography is one of the most important diagnostic examinations that gives on idea about the nature of the uterine lesions and their extents through the female pelvic structurs.

Magnetic resonance imaging has become an important diagnostic role in studying the female pelvis and its clinical application has opened a new diagnostic field that hold great promise for gynecology.

It provides an excellent method for evaluating pelvic and uterine lesions.

The aim of this study is to review the role of transvaginal ultrasonography examination and magnetic resonanse imaging in evaluation and diagnosis of different uterine lesions.

ANATOMY OF THE UTERUS

ANATOMY

Basic anatomy of the uterus (Fig. 1)

The uterus is a thick walled hollow, muscular organ located in the middle of the true pelvis lying between the bladder and the rectum. It is flattened from before backward and its muscular anterior and posterior walls bulge into the cavity so that the walls are in apposition.

Viewed from the front, the cavity has a triangular shape. It communicates with the peritoneal cavity via the fallopian tubes and with the exterior via the vaginal tube below.

The uterus varies in size, being largest during the reproductive years. The average uterus of a nulliparous women measures 9 cm in length, 6 cm in width at its widest part and 4 cm from before backwards. The wall is 1 to 2 cm thick, and hence the length of the cavity measures 7 cm, all these dimensions are increased by about 1.5 cm in women who have born children.

The uterus is made up of a body or corpus, an isthmus and a cervix. The body is further divided into the area which lies above the insertion of the oviducts and is called the fundus, the area where the oviducts join the

uterus on each side is termed the cornu. The isthmus is a constricted annular area, 0.5 cm wide which lies between the corpus and cervix. The constriction at the upper end of the isthmus is called the anatomical internal os, and the line at the lower end of the isthmus where the endometrium changes into columnar cervical epithelium is termed the histological internal os (Jones, 1986).

The cervix uteri, about 2.5 cm in length is the narrower cylindrical segment of the uterus. It is continuous above with the inferior end of the corpus at the constricted isthmus, below its tapering extremity projects into the upper end of the vagina. The cervix is thus divided by its relation to the surrounding vaginal wall into two segments; an upper supra-vaginal portion above the ring of attachment, and a lower free segment or vaginal portion which projects into the vault of the vagina. The cervix enters the vagina through the upper part of its anterior wall in such a manner that the external orifice of the cervix is directed downward and backward to rest against the posterior vaginal wall, the latter ascends to a higher cervical level than does the anterior wall.

The free projecting surface of the vaginal portion of the cervix is a convex prominence, transversely