Role of Different Imaging Modalities in the Diagnosis of Adnexal Masses

ESSAY
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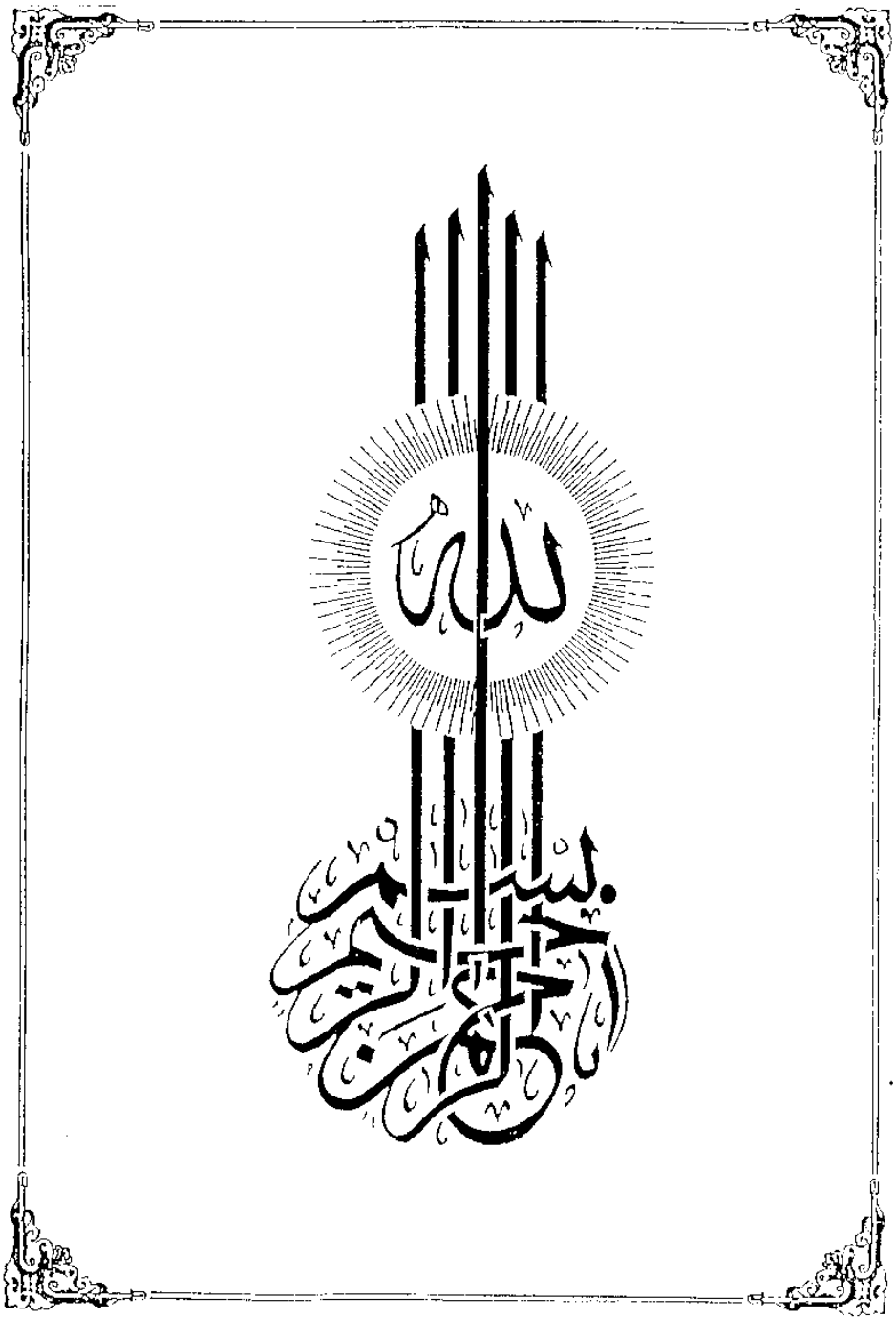
To my mother and father . . . . . .

To my family . . . . . .

To my husband . . . . . .



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INTRODUCTION

Adnexal structures represent the uterine tubes and the ovaries from which adnexal masses arise in the female pelvis. The commonest adnexal masses are: the simple cysts, hemorrhagic cysts, endometriosis, dermoids and ovarian carcinomas.

Although clinical and laparoscopic methods of examination have their role in evaluating such conditions, the new imaging modalities have added to the evaluation of different adnexal masses.

These modalities include ***Computerized Tomography***, ***Magnetic Resonance Imaging*** and ***Ultrasonography***.

The aim of this essay is to evaluate the role of the different imaging modalities in the diagnosis of adnexal masses.

ANATOMY

ANATOMY OF THE ADNEXAE

Adnexal structures include:

- The ovaries
- The fallopian tubes
- The broad ligaments.

I. THE OVARIES:

General Description:

- The ovaries are paired, almond shaped structures situated one on each side of the uterus close to the lateral pelvic wall just below the pelvic brim.
- Each ovary measures 3 cm long, 1.5 cm wide, 1 cm thick and weighs 4.8 gm (Gray, 1989).
- The ovary has two surfaces medial and lateral, two borders anterior and posterior, and two poles upper tubal and lower uterine.
- The ovaries are mobile structures, changing their positions according to the surrounding structures. In a nulliparous woman, the long axis of the ovary is vertical in the standing position (Gray 1989); [Fig. 1].

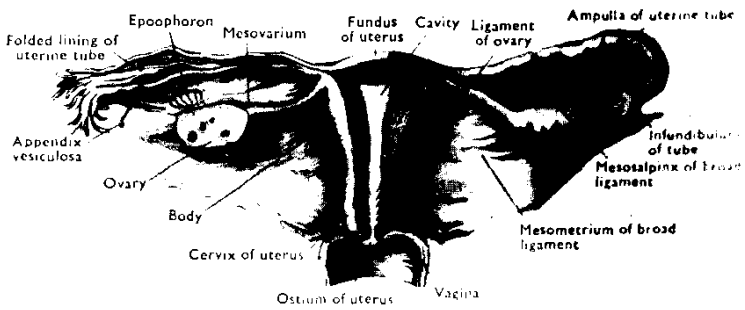

Fig 1. The postero-superior surface of the broad ligament and assciated structures, (Quoted from Cunningham, 1977).

Relations of the ovary:

Each ovary occupies the ovarian fossa on the lateral pelvic wall. [Fig. 1].

Anteriorly: It is bounded by the obliterated umbilical artery. This anterior border is attached to the back of the broad ligament by a short peritoneal fold called the mesovarium in which the blood vessels and nerves reach ovarian hilum.

Posteriorly: It is related to the ureter and the internal iliac artery by its concave free border [Fig. 2].

superiorly: It is related by its tubal end to the uterine tube and it is attached to the ovarian fimbriae and to the peritoneal ovarian suspensory ligament which contains the ovarian vessels and nerves [Fig. 2,3].

Inferiorly: Its uterine end faces downwards towards the pelvic floor. It is attached to the lateral uterine angle by an ovarian ligament which lies in the broad ligament. (Gray, 1989); [Fig.2].

Laterally: The lateral surface contacts the parietal peritoneum which

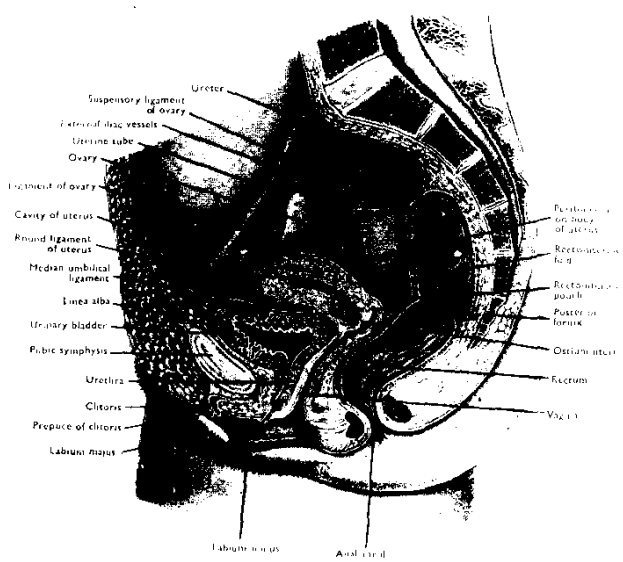

Fig. 2 A median section through the female pelvis (quoted from Cunningham, 1977).

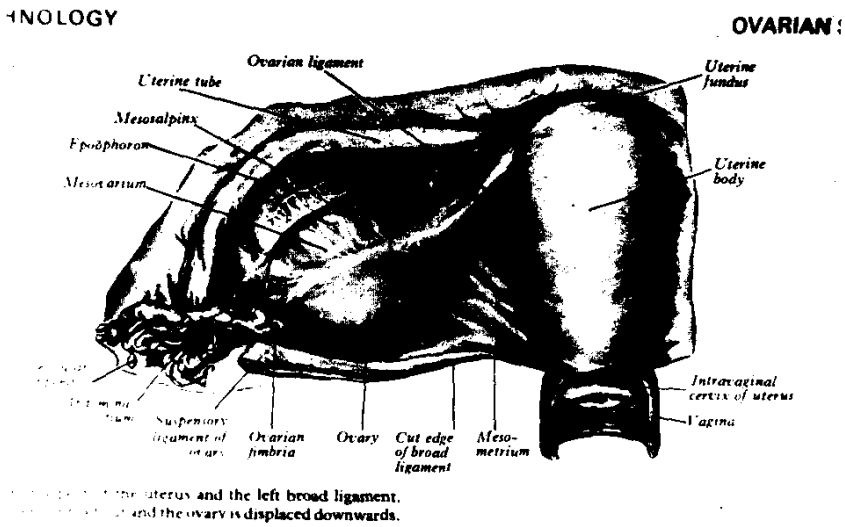

Fig. 3 Postero-superior aspect of the uterus and the left broad ligament (Quoted from Gray, 1989).