بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

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Role of Multi-detector CT in Local Staging of Uterine Malignancies

Thesis

Submitted for the partial fulfillment of the MD degree in Radio-diagnosis

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List of abbreviations

ADC	Apparent Diffusion Coefficient
AJCC	American Joint Committee on Cancer
BSO	Bilateral salpingo- oophorectomy
CIN	Cervical intraepithelial neoplasia
CT	Computed tomography
DW	Diffusion weighted
EIN	Endometrial intraepithelial neoplasia
ESS	Endometrial stromal sarcoma
EUA	Examination under anesthesia
FDG-PET	Fluorodeoxyglucose positron emission tomography
FIGO	International Federation of Gynecology and Obstetrics
HPV	Human Papilloma virus
IGRT	Image guided radiotherapy
IMRT	Intensity modulated radiotherapy
IV	Intravenous
LN	Lymph node
LND	Lymph node dissection
MDCT	Multidetector Computed Tomography
MMMT	Malignant mixed mesodermal sarcoma
MPR	Multiplanner reformation
MRI	Magnetic resonance imaging
NHS	National Health Society
PET	positron emission tomography
RTH	Radiotherapy
SCC	Squamous cell carcinoma
SEER	Surveillance ,Epidemiology and End Results
TAH	Total abdominal hysterectomy
UB	Urinary bladder
WHO	World health organization

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Introduction

Malignant neoplasms of the female pelvic organs account for almost 15% of all cancers in women. The most common of these malignancies is uterine cancer, specifically, endometrial cancer. *(Jemal et al., 2008)*

Endometrial cancer is the fourth most frequent cancer in women and now the most common gynecological cancer in many developed countries; accounting for 6% of female cancers, following breast, lung, and colorectal cancer. However, it has a favorable prognosis because the majority of patients present at an early stage, resulting in only 3% of cancer deaths in women. *(Jemal et al., 2007)* , *(Jemal et al., 2008)*

Cervical carcinoma accounts for most cases of malignant cervical tumours representing the third most common gynecologic malignancy. *(Balleyguier et al., 2010), (Yoshikazu et al., 2003)*

The incidence of cervical cancer in Egypt is 0.04% of the Egyptian woman. *(Abd El All et al., 2007)*

Nearly 80% of cervical cancer occurs in the developing countries and most patients are diagnosed with the disease at

an advanced stage so staging is usually clinical. *(Odicino et al., 2007)*

However, there are significant inaccuracies in the clinical staging system compared to surgical staging, with a considerable error rate. *(Balleyguier et al., 2010)*

In June 2009, the International Federation of Gynecology and Obstetrics (FIGO) introduced the revised staging of cervical carcinoma and although the revised FIGo staging system does not include imaging in the staging of cervical cancer, for the first time the committee encourages the use of imaging techniques. *(Picorreli S., 2009)*

In a study to evaluate multislice computed tomography (MSCT) in local staging of endometrial cancer accuracy was proven with high sensitivity and specificity indices.*(Tsili et al., 2008)*

Because CT is often the most readily available cross-sectional imaging modality, many female patients undergo CT as the primary imaging modality, even when US or MR imaging may be more suitable. Therefore, it is important that radiologists get to know the appearance of female pelvic conditions in CT.*(Darcy J.W., 2009)*

Although ultrasonography and magnetic resonance imaging remain the primary imaging modalities for the assessment of most female pelvic disorders, more accurate diagnosis of these disorders at multidetector CT may obviate additional imaging tests and allow more appropriate management. *(Yitta et al., 2009)*

Aim of the Work

To assess the role of MDCT in the local staging of uterine malignancies.

Anatomy of the Uterus

The uterus is a hollow, thick-walled, muscular organ situated deeply in the pelvic cavity between the bladder and rectum. Into its upper part the uterine tubes open, one on either side, while below, its cavity communicates with that of the vagina, (**Figure** 1)**,***(Gray* **H.** *,2000)*
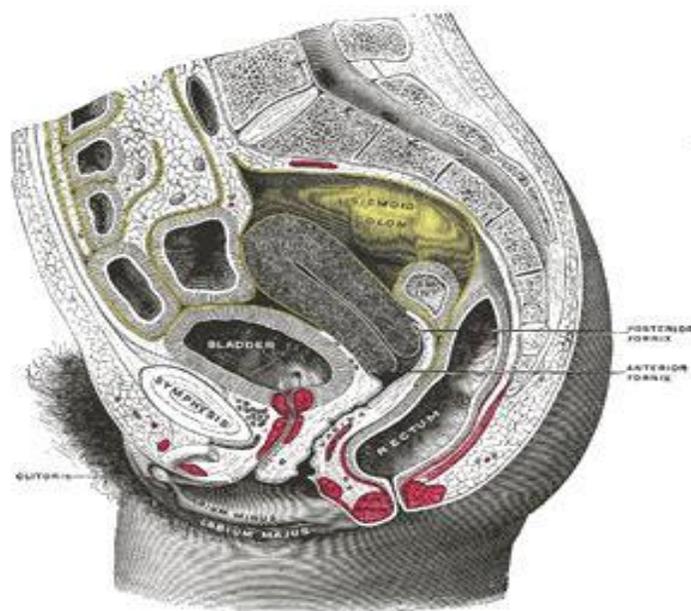

Figure (1): Sagital section through the pelvis.quoted from *(Gray H., 2000)*

Position of the Uterus:

In the virgin state the uterus is flattened antero-posteriorly and is pyriform in shape, with the apex directed downward and backward. It lies completely within the pelvis, so that its base is below the level of the superior pelvic

aperture. Its upper part is suspended by the broad and the round ligaments, while its lower portion is imbedded in the fibrous tissue of the pelvis. *(Gray H., 2000)*

Measurements and Shape:

The uterus measures about 7.5 cm. in length, 5 cm. in breadth, at its upper part, and nearly 2.5 cm. in thickness; it weighs from 30 to 40 gm. It is divisible into two portions. On the surface, about midway between the apex and base, is a slight constriction, known as the isthmus, and corresponding to this in the interior is a narrowing of the uterine cavity, the internal orifice of the uterus. The portion above the isthmus is termed the body , and that below, the cervix. The part of the body which lies above a plane passing through the points of entrance of the uterine tubes is known as the fundus. The body gradually narrows from the fundus to the isthmus *(Gray H. 2000).*

Parts of the Uterus:

1. **Body (corpus uteri):**

The body gradually narrows from the fundus to the isthmus. The vesical or anterior surface (facies vesicalis) is flattened and covered by peritoneum, which is reflected on to the bladder to form the vesico uterine excavation. The surface lies in apposition with the bladder. *(Gray H.,2000).*