COMPARISON BETWEEN M.R.I AND C.T IN THE EVALUATION OF CERVICAL CANCER

Essay

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ADC	Apparent diffusion coefficient
CIN	Cervical intraepithelial neoplasia
CIS	Carcinoma in situ
CM	Contrast media
CT	Computed tomography
3D	Three dimension
DWI	diffusion weighted image
FDG PET	Fluorodeoxyglucose Positron emission tomography
FIGO	International Federation of Gynecology and Obstetrics
FOV	Field of view
FS	Fat saturation
FSE	Fast spin echo
Gd-DTPA	Gadopentetate dimeglumine
HPV	Human papilloma virus (HPV) virus
HSIL or HGSIL	High-grade squamous intraepithelial lesion
IUCD	Intrauterine contraceptive device
LSIL or LGSIL	Low-grade squamous intraepithelial lesion
MRI	Magnetic resonance imaging
PAP	Papanicolaou test
PD	Proton density
PET	Positron emission tomography
ROI	Region-of-interest

SCC	Squamous cell carcinoma
SCJ	Squamocolumnar junction
SE	Spin echo
SNR	Signal to noise ratio
T1W	T1 weighted MR image
T2W	T2 weighted MR image
TE	Time of echo
TI	Time inversion
TNM	Classification of malignant tumours
T	Size or direct extent of the primary tumor
N	Degree of spread to regional lymph nodes
M	Presence of metastasis
TR	Time of recovery
TRUS	Transrectal ultrasound
TSE	Turbo spin echo
TZ	Transformation (transition) zone
UICC	United International Cancer Congress
US	Ultrasound

CONTENTS

INTRODUCTION AND AIM OF THE WORK

Invasive cervical cancer is the third most common gynecologic malignancy. Its prognosis is based on the stage, size, and histological grade of the primary tumor and the status of the lymph nodes. Accurate cervical cancer staging is crucial for appropriate treatment selection and treatment planning ***(Jemal et al, 2005).***

Cervical cancer is the only gynecologic cancer still clinically staged based on clinical federation of international of Gynecologists and obstetricians criteria .These include findings from physical examination, colposcopy, lesion biopsy, radiologic studies (eg, chest radiography, intravenous urography, and barium enema), and endoscopic studies (eg, cystoscopy, sigmoidoscopy) ***(Pecorelli et al, 2003).***

The greatest difficulties in the clinical evaluation of patients with cervical cancer is the estimation of tumor size, especially if the tumor is primarily endocervical in location; the assessment of parametrial and pelvic sidewall invasion; and the evaluation of lymph node and distant metastases ***(Bipat et al, 2003).***

Modern cross-sectional imaging CT or MR imaging examination providing evaluation of all morphologic cervical cancer prognostic factors (including tumor size, parametrial

invasion, adjacent organ/tissue invasion, and lymph node metastasis) ***(Bipat et al, 2003).***

CT scanning and MRI are more accurate staging modalities than US. the tumor spread because of the inability of this technique to adequately depict all the potential sites of metastasis or the anatomic regions that contain lymph nodes ***(Hricak et al, 2007).***

MRI is significantly more valuable than CT in the assessment of the size of the tumor, the depth of the cervical invasion, and the locoregional extent of the disease (direct invasion of the parametrium, pelvic sidewall, bladder, or rectum) ***(Nicolet et al, 2000).***

Despite the advantages of MRI, CT scanning and MRI are not warranted in patients with small-volume early disease (stage Ib disease and a cervical tumor diameter < 2.0 cm) because of the low probability of parametrial invasion and nodal metastasis ***(Mitchell et al, 2009).***

The aim of this work is to compare between M.R.I and C.T in evaluation of all pre-operative staging of cancer cervix, local, nodal ,distant metastasis, recurrence , response to therapy.