The Role of Diffusion weighted Imaging versus dynamic multiphase contrast enhanced MRI in the evaluation of uterine malignancies

Thesis

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قَالُوا سُبْحَانَكَ
لاَ عِلْمَ لَنَا
إِلاَّ مَا عَلَّمْتَنَا
إِنَّكَ أَنتَ
الْعَلِيمُ الْحَكِيمُ
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Abstract

Recent developments in diagnostic imaging techniques have magnified the role and potential of MRI in female pelvic imaging. Functional imaging by means of dynamic multiphase contrast-enhanced magnetic resonance imaging (DCE-MRI) and diffusion weighted magnetic resonance imaging (DW-MRI) is now part of the standard imaging protocols for evaluation of the female pelvis.

In this review, we give an overview of both DCE-MRI and DW-MRI techniques, concentrating on their main clinical application in preoperative staging and their role in tailoring treatment options and therapy in patients with uterine malignancies. We were aiming to compare DW-MRI with DCE-MRI in a way to highlight the most cost effective method in management of patients with uterine malignancy.

DCE-MRI improves the accuracy of T2WI in staging of endometrial cancer. It also increases reader's confidence in assessment of parametrial infiltration and adjacent organ invasion in cancer cervix. DW-MRI is valuable in preoperative staging of patients with endometrial and cervical cancer, especially in detection of extra-uterine disease. It does increase reader's confidence for detection of recurrent disease in gynaecological malignancies and improves detection of small peritoneal implants.

Key words: endometrial carcinoma, cervical carcinoma, dynamic contrast enhanced MRI, Diffusion weighted MRI, functional imaging.

CONTENTS

Subject	Page No.
Contents	I
List of Tables	ii
List of Figures	iv
List of Abbreviations	xvii
Introduction	1
Aim of the Work	4
Review of Literature	
Chapter 1: Normal anatomy of the female pelvis	5
Chapter 2: Pathology & Clinical Manifestations Of Uterine Malignancy	26
Chapter 3: MR Imaging Of Uterine Malignancy	49
Patients & Methods	86
Results	95
Case Illustration	109
Discussion	130
Summary	142
Conclusion	144
Limitations	145
Recommendations	146
Reference	148
Arabic Summary	1

LIST OF TABLES

Table No.	Title	Page No.

Table 1: WHO histopathological classification of cervix uteri malignancies 35

Table 2: FIGO Staging for Endometrial Cancer 38

Table 3: Staging of uterine sarcomas (leiomyosarcomas, endometrial stromal sarcomas, and adenosarcomas) 41

Table 4: FIGO Staging for ESS and adenosarcomas 42

Table 5: Staging system of cervical cancer according to FIGO classification 46

Table 6: Revised surgical FIGO staging (2009) of endometrial carcinoma with MRI findings 58

Table 7: Imaging Protocol "Finding-Specific" for optimum evaluation of endometrial carcinoma 89

Table 8: Imaging Protocol "Finding-Specific" for optimum evaluation of cervical carcinoma 90

Table 9: Parameters used for DW-MR imaging of uterine malignancy 91

Table 10: Parameters used for DCE-MR imaging of uterine malignancy 92

Table 11: Age distribution between cervical and endometrial malignancy 96

Table 12: Endometrial cancer histology 97

Table 13: Histological subtypes of cervical cancer 98

Table 14: Assessment of parametrial infiltration by T2WIs, DWI, DCE-MRI and pathology in the studied group. 100

Table 15: Diagnostic indices of parametrial invasion in Endometrial carcinoma 101

Table 16: Diagnostic indices of parametrial invasion in cervical carcinoma 101

LIST OF TABLES (COM)

Table No.	Title	Page No.

Table 17: Cervical stromal invasion in cervical cancer cases at our study 102

Table 18: Diagnostic indices of cervical stromal invasion detection by different MRI sequences 103

Table 19: Lymph node assessment by pathology report 104

Table 20: Lymph node involvement in different sequences and pathology 104

Table 21: Correct estimation of lymph nodes throughout different sequences 105

Table 22: Identification of LN involvement at different sequences and final pathology report 105

Table 23: Accuracy of endometrial and cervical carcinoma staging 106

Table 24: Correlation between ADC and tumor grades in the studied patients (r= -0.28; p= 0.054). 107

LIST OF FIGURES

Figure No.	Title	Page No.

Figure (1): Normal shape of the uterus. Quoted from 5

Figure (2): Sagittal section through the pelvis : 1 body of the uterus, 2 cer- vix: 2 ¢ supravaginalis portion, 2 ″ infravaginalis portion, 3 vagina, 4 vesicou- terine pouch, 5 Douglas. Quoted from 6

Figure (3): Anterior view of the uterus covered by broad ligament. *1* Uterus, *2* cervix, *3* vagina, *4* left ovary, *5* uteroovarian ligament, *6* tube with its infundibulum, *7* tubo-ovarian ligament, *8* Morgagni hydatid, *9* round ligament, *10* broad ligament with its anterior (*a*), middle (*b*), and posterior (*c*) wings; *11* posterior leaf of the broad ligament, and *12* infundibulopelvic ligament..... 6

Figure (4): A, Three outlines of the uterus, showing a more normal position (anteversion) and a moderate and a more extreme degree of retroversion. The last is most often brought about by filling of the bladder. B, The normal adult uterus is anteverted (i.e., at an angle with respect to the vagina) and anteflexed (i.e., flexed somewhat on itself). C, The solid lines indicate the planes and the angles of anteversion and anteflexion. These are not fixed positions. Quoted from.....7

Figure (5): The ligamentous supports of the uterus. Quoted from.... 12

Figure (6): Relations of the uterus level of the superior pelvic aperture. Quoted from 13

Figure (7): Coronal section through the middle of the broad ligament. 1 broad ligament: 1" Mackenrodt ligament, 1 ″ mesometrium, 2 uterine artery, 3 ureter, 4 veins, 5 internal obturatis, 6 levator ani 14

Figure (8): Sagittal T2-weighted images of the female pelvis in midline (A) and paramidline (B) locations. The zonal anatomy of the uterus is well demonstrated on T2-weighted images, with high signal intensity in the endometrium (asterisk) and characteristic low signal intensity of the junctional zone (arrowhead). Outer myometrium demonstrates intermediate signal intensity between the two other uterine layers. The cervix is well seen in longitudinal dimension, noting contiguity of the dark fibromuscular stroma with the uterine junctional zone. The posterior fornix (arrow) is formed from the posterior reflection/interface of the exocervix and the vagina. B, bladder; C, cervix; L5, L5 vertebral level; OM, outer myometrium; R, rectum; V, vagina. Qouted from.....22

LIST OF FIGURES (*COM*)

Figure No.	Title	Page No.

Figure (9): (A) Oblique T2-weighted long-axis image of the pelvis, superior cut through uterus. The long-axis of the uterus is partially visualized on this image. Several pelvic structures are well delineated, including right ovary (arrow) and left ovary (arrowhead). (B) Oblique T2-weighted long-axis image of the pelvis, middle cut through uterus. This long-axis view of the uterus shows the external uterine contour (arrow) in a single image, in this case slightly convex outward. The zonal anatomy is well seen on this central uterine image, including endometrium (asterisk) and junctional zone (arrowhead). (C) Oblique T2-weighted long-axis image of the pelvis, inferior cut through uterus. The uterus is only partially visualized at this level. The cervix and upper vagina, however, are now in plane (exocervix [arrow]). (D) Oblique T2-weighted long-axis image of the pelvis toward the perineum. At this level, the urethra (arrow) and vagina (arrowhead) are well seen. The anal canal is also visible. A (A), external iliac artery; A (C), anal canal; B, bladder; GM, gluteus maximus muscle; IP, iliopsoas muscle; OI, obturator internus muscle; PS, pubic symphysis; P, piriformis muscle; R, rectum; S, sigmoid colon; V, external iliac vein. Qouted from 23

Figure (10): (A) Oblique T2-weighted short-axis image of the pelvis, anterior cut through the uterus. Zonal anatomy is well demonstrated on short-axis imaging, including endometrium (asterisk), junctional zone (arrowhead), and outer myometrium. (B) Oblique T2-weighted short-axis image of the pelvis, central cut through the uterus. Zonal anatomy is gain well seen though uterine size is decreasing toward the lower uterine segment; only the outer myometrium is marked. Both ovaries are demonstrated (right ovary [arrow]; left ovary [arrowhead]). (C) Oblique T2-weighted short-axis image of the pelvis, posterior cut through the uterus. Cervix is now seen (arrow). Longitudinal fold of the cervical folds/plicae palmatae is well seen in cross section (arrowhead). Exiting nerve L5 roots (asterisk) are well seen given slight obliquity of image. B, bladder; I, iliacus muscle; L5, L5 vertebral body; OM, outer myometrium; P, psoas muscle; S, sigmoid colon. Quoted from 24

LIST OF FIGURES (*COM*)

Figure No.	Title	Page No.

Figure (11): Axial T1-weighted image in upper pelvis, precontrast (A) and fat-suppressed postcontrast (B). Zonal anatomy of the uterus (U) is not well seen on T1-weighted images. The follicular architecture of the ovaries (right ovary [arrow], left ovary [arrowhead]) is also not as well seen as T2-weighted images, although some follicles are more easily seen on postcontrast imaging due to lack of internal enhancement. Muscular architecture is well depicted, including iliopsoas muscle (IP), gluteus maximus muscle (GM), and piriformis muscle (P). S, sigmoid colon. Quoted from 25

Figure (12): Axial T1-weighted image in mid pelvis, precontrast (A) and fat-suppressed postcontrast (B). The uterus remains relatively homogeneous is signal intensity, with only subtle differential signal on postcontrast imaging to suggest zonal anatomy. Bladder is partially visualized, with low signal intensity expected for normal urine.Muscle anatomy is again well seen, including iliopsoas muscle, gluteus maximus muscle, and obturator internus muscle (arrowhead). B, bladder; GM, gluteus maximum; IP, iliopsoas muscle; R, rectum; U, uterus. Quoted from 25

Figure (13): Axial T1-weighted image in lower pelvis, precontrast (A) and fat-suppressed postcontrast (B). The structural anatomy seen at this level on T2-weighed images is more difficult to appreciate, particularly on precontrast T1-weighted images. Urethra (arrow) and vagina (arrowhead) are present anteriorly, whereas anal canal is present posteriorly. A, anal canal; GM, gluteus maximus muscle; OI, obturator Internus muscle; PS, pubic symphysis. Quoted from 25

Figure (14): Adenocarcinoma of the endometrium. This tumor, which occupies a small uterine cavity, grows primarily as a firm polypoid mass..... 28

Figure (15): Pathological specimen of endometrial adenocarcinoma. A.Endometrioid carcinoma. Polypoid tumor with only superficial myometrial invasion. Well-differentiated (grade 1) adenocarcinoma. B. Non-endometrioid carcinoma. Large hemorrhagic and necrotic tumor with deep myometrial invasion, serous carcinoma..... 29

Figure (16): Pathological specimen showing uterine sarcoma. Body of uterus largely replaced by the soft pale fleshy mass of a uterine sarcoma 31
Figure (17): Staging carcinoma of the corpus uteri. Primary tumor and metastases (FIGO) 40
Figure (18): Chart shows the added role of MR imaging in risk stratification and treatment planning of patients with endometrial cancer 44
Figure (19): Staging of cancer cervix. A, Coronal illustration of stage IB shows large mass confined to cervix. B, Coronal illustration of stage IIB shows tumor involving vaginal and supravaginal cervix with parametrial invasion on the left. C, Coronal illustration depicts stage IIIA with tumor extending into lower third of vagina. D, Sagittal illustration depicting stage IVA cancer with bladder or rectal invasion by tumor 47
Figure (20): Chart shows potential role for MR imaging in evaluation of patients with cervical carcinoma. Note that presence of enlarged lymph nodes does not change FIGO staging of cervical carcinoma; however, clinical management pathway will alter depending on presence or absence of lymphadenopathy 48
Figure (21): Well-defined endometrioid carcinoma with no myometrial invasion. This T2-weighted sagittal MR image shows intermediate signal intensity tumor (T). Multiple nabothian cysts (arrows). There is no defect in the underlying junctional zone (arrowheads) appearing of low signal intensity 51
Figure (22): Endometrial cancer FIGO IA. (a) Sagittal T2-weighted and (b) para-sagittal post-contrast images. There is a large volume of tumour within the endometrial cavity. There is invasion of the myometrium, extending to <50% of the myometrial thickness (arrow). The post-contrast image demonstrates the typical bright enhancement of the myometrium with intermediate enhancement of the tumor 52
Figure (23): Endometrial cancer FIGO 1B. (a) Sagittal T2W image of the uterus shows an endometrial mass (star) and an irregular interface with the junctional zone (arrow). (b)Fat-suppressed contrast-enhanced T1W sagittal image allows easier identification of endometrial tumor limits due to decreased tumor enhancement. The remaining thickness of the hypervascular, non-invaded myometrium (arrowheads) measures less than 50% of the total myometrial thickness (small arrowheads) and suggests deep myometrial invasion..... 52

LIST OF FIGURES (COM)

Figure No.	Title	Page No.

Figure (24): Stage IIendometrial carcinoma in a 55-year-old woman. (a) Sagittal T2-weighted MR image shows an intermediate- to high-signal-intensity endometrial tumor (arrows) invading the normal, low-signal-intensity cervical stroma. (b) Axial oblique T2-weighted MR image, obtained perpendicular to the endocervical canal, shows the tumor (arrows) invading the cervical stroma but not the parametrium 53

Figure (25): Stage IIIA endometrial carcinoma. Sagittal T2-weighted fast spin echo MR image shows disruption of the low signal intensity uterine serosa (arrow) by a large grade 3 endometrial carcinoma (T), indicating serosal invasion 54

Figure (26): Stage IIIA endometrial carcinoma.(A) Sagittal and (B)axial T2WIs demonstrate the tumor within the endometrial cavity (T) with evident bilateral ovarian deposits (M)..... 55

Figure (27): Stage IIIB endometrial carcinoma. A Sagittal and B axial oblique T2-weighted images demonstrate an infiltrative endometrial mass with cervical stromal invasion and right sided parametrial infiltration (white arrow)..... 55

Figure (28): Endometrial cancer FIGO IIIC1.(a) Sagittal T2-weighted image demonstrates a tumor within the endometrial cavity (black arrow), which extends into the endocervical canal and invades the cervical stroma (white arrow). (b) Oblique axial T2-weighted images demonstrates an enlarged right external iliac lymph node (arrow)..... 56

Figure (29): Stage IVA endometrial carcinoma. a Sagittal and b oblique axial T2-weighted images demonstrate a large tumor replacing and distorting the uterus. There is breach of the uterine serosa and invasion of the adjacent sigmoid colon (black arrow) and pelvic sidewall 57

Figure (30): Stage IVB endometrial carcinoma.(A) Axial T2-weighted MR images show peritoneal deposits (arrow).(B) Axial T2-weighted MR image shows omental cake (arrowheads), a pattern of metastatic spread similar to that of ovarian carcinoma..... 57

Figure (31): Recurrent endometrial cancer. Axial T2WIs images showing central recurrence in the vagina (A) and peripheral recurrence on the right pelvic sidewall (B). The tumor mass (arrows) is of intermediate signal intensity in both cases with focal central necrosis..... 59

LIST OF FIGURES (COM)

Figure No.	Title	Page No.

Figure (32): Endometrial cancer confined to the uterus: sagittal dynamic contrast-enhanced series fat saturation before. (A),immediately after (B) and at 30 seconds (C), 60 seconds (D), and 5 minutes (E) after intravenous administration of a bolus of 0.1 mg/kg gadolinium diethylenetriamine pentaacetic acid. There is strong myometrial enhancement immediately after contrast injection. The irregularity at the endometrial-myometrial junction (arrows) showing early invasion of the low-signal-intensity tumor into the enhancing myometrium is best seen at 30 seconds. A poorly enhancing intramural leiomyoma is noted in the posterior myometrium 62

Figure (33): Endometrial carcinoma confined to endometrium by DCE-MRI. A) High-resolution sagittal T2-weighted image shows a large endoluminal mass (asterisk). The junctional zone is not identified. MRI diagnosis was stage IB. T1-weighted fast gradient-echo images at 30 seconds (B), 60 seconds (C), and 120 seconds (D) after gadolinium. On delayed images (C and D) intact subendometrial enhancement layer (arrowheads) is detected. Contrast MRI diagnosis was stage Ia, confirmed at histology 63

Figure (34): Endometrial cancer FIGO IB. (a) the tumor (arrow) is poorly defined on the T2-weighted image, in this case. Depth of myometrial invasion is difficult to assess. (b) Dynamic post contrast image clearly defines the brightly enhancing myometrium from the tumor. The depth of myometrial invasion is greater than 50 % (arrows) 64

Figure (35): Functional imaging in endometrial cancer. (a) T2-weighted and (b) multiphase dynamic contrast-enhanced (equilibrium phase, 120s) images demonstrate an endometrial cavity distended by presence of tumour; the invasion of cervical stroma posteriorly is much better appreciated in (b) than in (a) 64

Figure (36): DCE-MRI of Cervical carcinoma; the tumor (arrows) extension to the uterine corpus (arrow) is more clearly depicted on DCE-MRI than on T2-weighted image. A.T2-weighted FSE without fat saturation. B. upper left pre-contrast; upper right 15s post contrast; lower left 60 s post-contrast; lower right 180s post contrast..... 66

LIST OF FIGURES (COM)

Figure No.	Title	Page No.

Figure (37): Detection of small cervical tumors by DCE-MRI.(A) Upper left precontrast; upper right 15 s post contrast; lower left 60 s postcontrast; lower right 180 s post contrast. (B) T2-weighted FSE without fat saturation. Cervial carcinoma was only reliably detected by DCE-MRI (arrow) and not visible in FSE T2-weighted 68

Figure (38): Proven vaginal fornix recurrence after radical surgery for cervical cancer in a 65-year-old woman. (A) Axial T1-WI, (B) Axial T2-WI and (C) DCE-MRI depicted a small focus of faster first pass contrast agent enhancement with a type III kinetic curve (D) (washout), which is indicative of malignancy 69

Figure (39): Tumor detection by DW-MRI (a) T2-weighted oblique image (TR/TE = 3750/105) shows an unthickened endometrium pressed on by an intramuscular leiomyoma. It is difficult to detect a cancer in the endometrial cavity. (b) DW oblique image (TR/TE = 5800/68, b = 800 s/mm2) shows an area with remarkably high signal intensity (arrow) relative to a myometrium. Histopathologically, the area corresponds to an endometrial cancer. (c) Fused oblique T2-weighted image/DW image accurately shows anatomical information of the tumor in the right-sided cavity. (d) An ROI is placed in the endometrial cancer with remarkably high signal intensity on DW axial image, in which ADC value is measured (0.79×10^{-3}mm2/s) 71

Figure (40): DW-MRI of Poorly-differentiated endometrioid adenocarcinoma (grade 3, T3a stage) in a 69-year-old woman. (A) Sagittal T2-weighted image shows a mass of intermediate signal intensity in the endometrial cavity (arrows). The exact extent of the tumor is not clearly recognized in this image due to poor contrast between the tumor and the adjacent myometrium. (B) The fusion image of DW images with a b-value of 1000 seconds/mm2 onto T2-weighted image shows significantly increased signal intensity corresponding to the tumor. (C) ADC map image demonstrates the tumor as a prominent hypointense area. The ADC value of the tumor is 0.62 $x10^{-3}mm^2$/second 72