

**Evaluation Of The Role Of The Apparent Diffusion Coefficient In
Differentiating Benign From Malignant Endometrial Lesions**

Thesis

Submitted in Partial Fulfillment of
MD Degree of
Radiodiagnosis

By

Menna Allah Safwat Mohamed
Assistant lecturer of Radiodiagnosis
Fayoum university hospital

**Thesis submitted in partial fulfillment of MD degree in
Radiodiagnosis**

**Department of Radiodiagnosis
Faculty of Medicine
Fayoum University
2021**

**Evaluation Of The Role Of The Apparent Diffusion Coefficient In
Differentiating Benign From Malignant Endometrial Lesions**

Thesis

Submitted in Partial Fulfillment of
MD Degree of
Radiodiagnosis

By

Menna Allah Safwat Mohamed
M.B.B.CH & MSc of Radiodiagnosis

Under supervision of

Prof. Dr. Mohamed Abdellatif Mahmoud
Professor of Radiodiagnosis
Faculty of medicine
Fayoum University

Dr. Abdallah Abbass Abdelfatah

Lecturer of Radiodiagnosis
Faculty of medicine
Fayoum University

**Department of Radiodiagnosis
Faculty of Medicine
Fayoum University**

2021

ABSTRACT

Purpose: to evaluate the role of apparent diffusion coefficient (ADC) in differentiating benign from malignant endometrial lesions.

Methods: fifty patients present with endometrial lesion, their ages ranged from 24 to 75 years. Conventional T1, T2 weighted and DW-MRI images with b values 0, 1000 s/mm² were obtained. The mean ADC values of all lesions were calculated and recorded. Results were correlated with final histopathological diagnosis reached by dilatation and curettage (D&C) or hysterectomy.

Results: after histopathological examination of 50 lesions, we found that when a cut-off value of ($1.1 \times 10^{-3} \text{mm}^2/\text{s}$) was used for the ADC value: the sensitivity, specificity, PPV ,NPV and total accuracy rates were determined as 100% , 89% ,100% 90.6% and 94% respectively. The mean ADC value for the malignant lesions was ($0.90 \pm 0.05 \times 10^{-3} \text{mm}^2/\text{s}$) that was significantly lower than that for the benign lesions ($1.35 \pm 0.04 \times 10^{-3} \text{mm}^2/\text{s}$).

Conclusion: DWI and ADC together were found to be of high sensitivity and specificity in detecting and differentiating benign and malignant endometrial lesions. It is a non-invasive technique that adds more to the total accuracy of the conventional MR exam increasing the confidence of the diagnosis.

Key words: Endometrial Lesions –Diffusion Weighted Imaging-Apparent Diffusion Coefficient.