شبكة المعلومات الجامعية

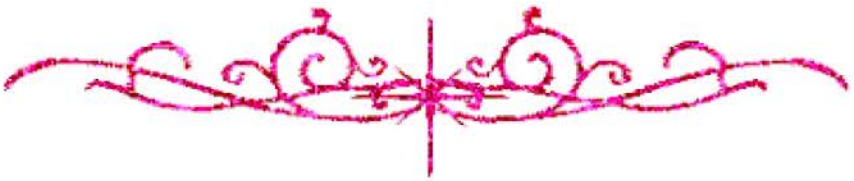
بسم الله الرحمن الرحيم

HOSSAM MAGHRABY

شبكة المعلومات الجامعية

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم



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شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها

علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

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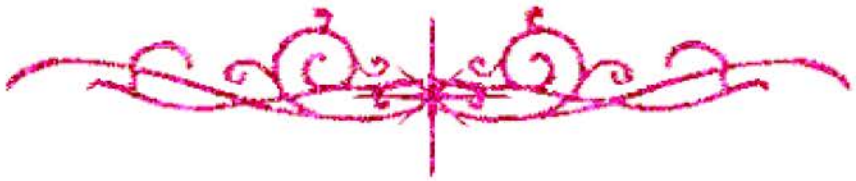
بعض الوثائق الأصلية تالفة



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بالرسالة صفحات

لم ترد بالأصل

HOSSAM MAGHRABY

MAGNETIC RESONANCE IMAGING O PITUITARY AND PARASEIIAR LESIONS

Thesis
Submitted in Partial Fulfillment for the
MD Degree

In
Radiodiagnosis

By
Hisham Moustafa Zaki Abdel-Razik
MB, B Ch ; MSc

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CONTENTS

Introduction and Aim of The Work

The pituitary gland is a complex neuroendocrine organ involved in the control of a variety of homeostatic mechanisms. It resides in the sella turcica and bordered on both sides by the cavernous sinuses, which harbor carotid arteries, 3rd, 4th , 5th and 6th cranial nerves. For this reason, the pituitary gland parasellar region is an intricate crossroad of endocrine, neural, vascular and skeletal structures. Many clinical syndromes are a result of lesions involving the sella turcica and neighboring structures. Imaging is crucial because clinical evaluation frequently cannot localize the lesion accurately. Therefore patients with symptoms and signs of pituitary axis dysfunction or visual field deficits are frequently referred for diagnostic imaging procedure.

Computed tomography (CT) was the first modality to display soft tissue cross sectional anatomy. It was a significant imaging advancement in the evaluation of the sellar area and it soon became the preferred method of assessment ***(Chambers et al., 1982; \ Davis et al., 1984).***

However, it does have a number of significant limitations. Computed tomography has the hazards of radiation and contrast enhancement. Beam hardening artifact secondary to bone and dental amalgam can be a problem . CT also has limited soft tissue resolution. For example, the carotid artery within the cavernous sinus often cannot be separated distinctly. So there is limitations in the assessment of involvement of local structures by tumor, in

particular the optic chiasm and cavernous sinuses, and in identifying focal abnormalities.

Magnetic Resonance Imaging (MRI) has virtually supplanted other imaging techniques as the modality of choice for evaluation of sellar and Juxtasellar regions. It provides multiplanar images with superior tissue contrast differentiation, and it is non invasive. MR shows the normal anatomic structures with much fine details. This is mainly due to the easy availability of sagittal images and different T1 and T2 values for cerebrospinal fluids, white matter, gray matter and lack of bone (beam hardening) artifact.

Several groups have reported their experience using magnetic resonance imaging (MRI) in the evaluation of pituitary lesions. MRI has been shown to be of value in identifying the optic chiasm ***(Doyle A.J , 1990)*** and in the assessing compression of the optic chiasm and invasion of the cavernous sinuses ***(Nicholas et al., 1988).*** MRI has also been shown to accurately identify sellar and parasellar lesions ***(Goldstein et al., 1986).***

The aim of this study was to evaluate the role of MR operating at 1.5 T in the imaging of pituitary and parasellar region. Also to assess the ability of MR as a diagnostic modality that possess multiplanar capability, to delineate precisely the delimits of sellar lesions, its epicenter and to predict its pathology if possible.