MANAGEMENT OF ADRENAL TUMOURS IN ADULTS

AN ESSAY

SUBMITTED FOR PARTIAL FULFILMENT OF MASTER DEGREE
IN GENERAL SURGERY

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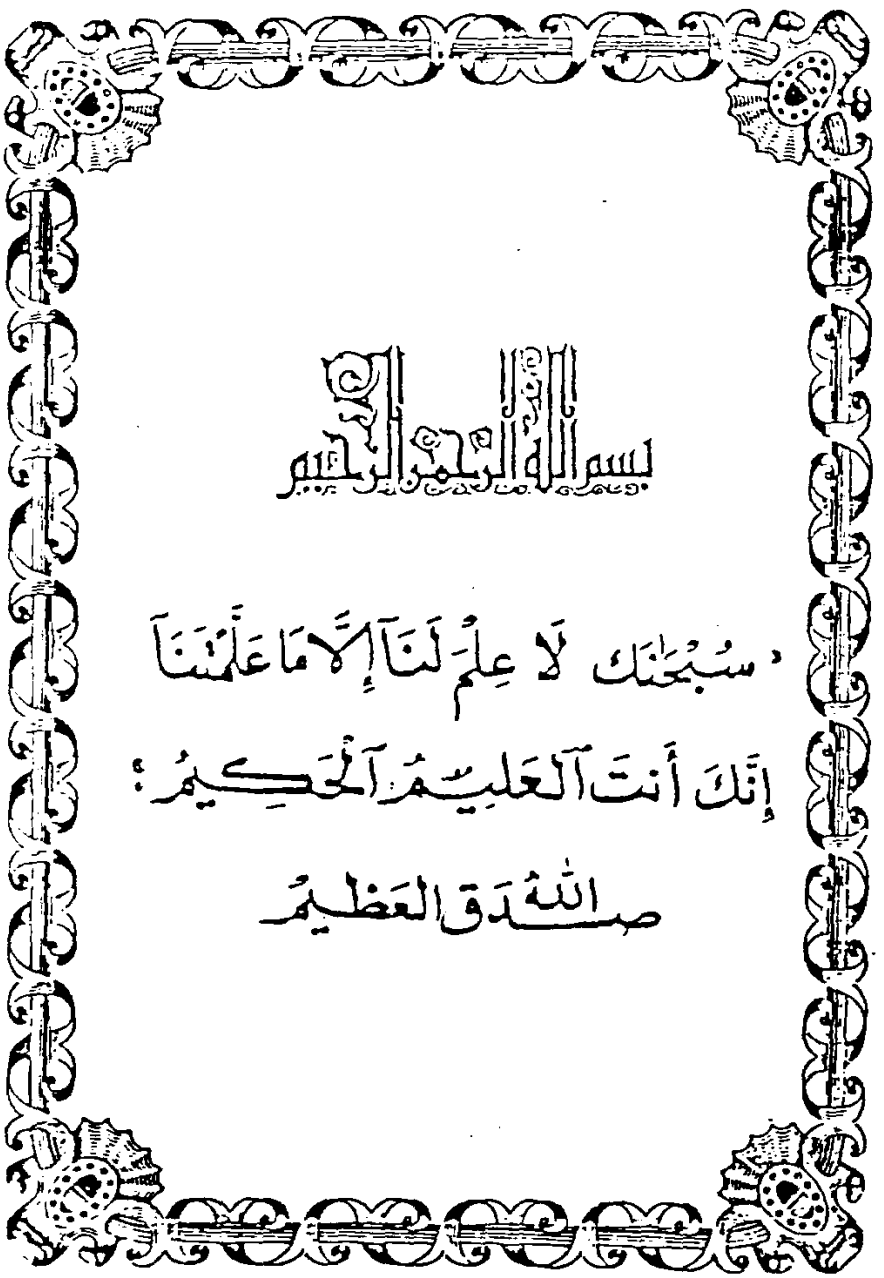
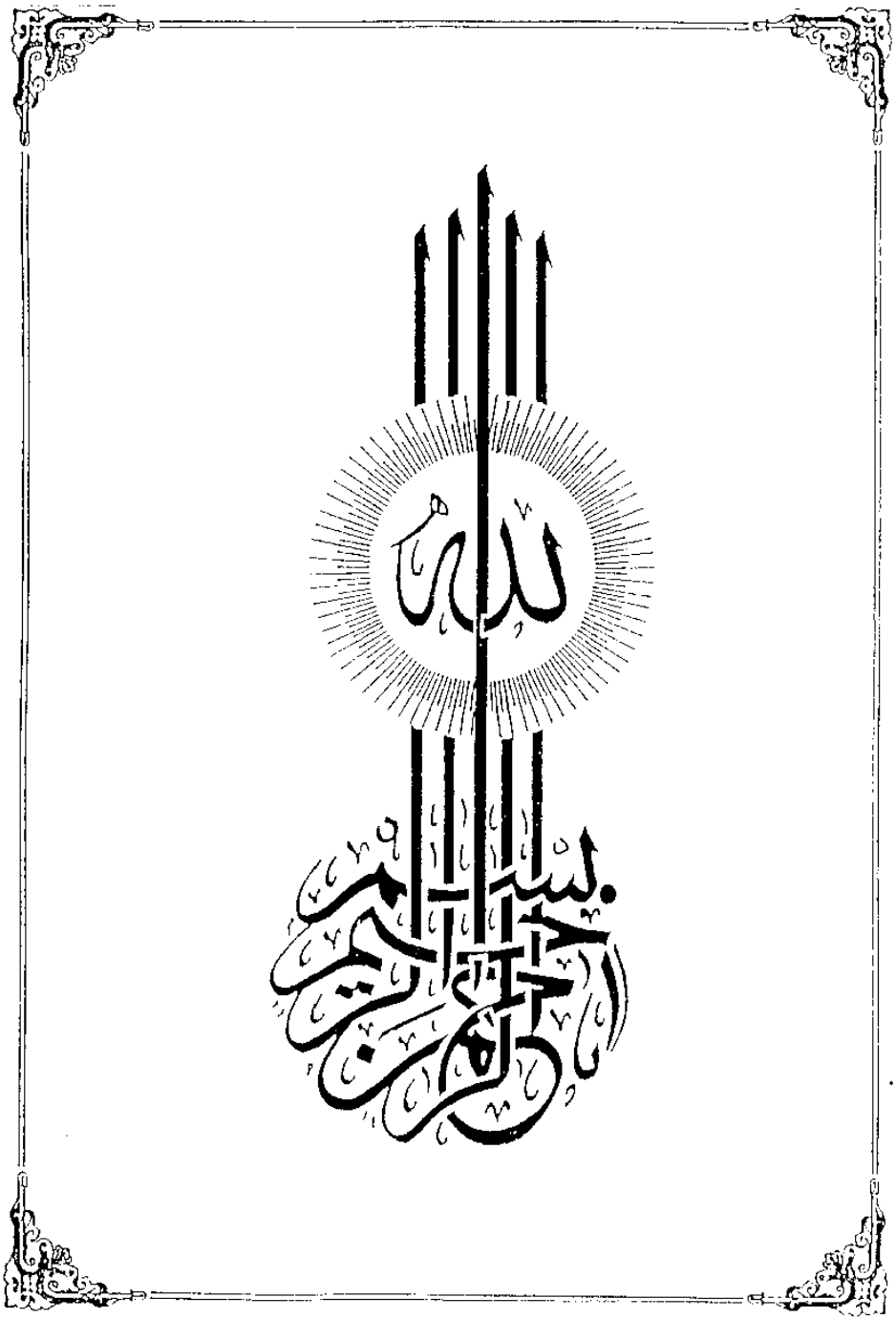


بسم الله الرحمن الرحيم

سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا
إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ

صدق الله العظيم



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INTRODUCTION

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Adrenal tumours. are rare and often present late when physiological derangement is well established. Retrospective analysis of family photographs for example, can show the evolution of the facies of Cushing's syndrome over 4-5 years. Other adrenal tumours are detected accidentally or coincidentally during investigation of non-specific symptoms. It has been predicted that 2% of patients will have an unsuspected adrenal mass discovered during an upper abdominal CT scan for an unrelated problem (Ross & Avon 1990).

Management of the incidentally detected adrenal mass or incidentaloma is Controvertional. It is obviously important to differentiate a hormonally active or malignant primary or secondary tumour from a benign lesion. In experienced hands MRI can distinguish adrenal carcinoma, adenoma, phaeochromocytoma, lipoma, metastases and cysts but cost prohibits its use as a screening procedure (Thompson & Cheung 1987). MRI has been advocated as a superior tool for characterizing adrenal masses. C.T and MRI provide complementary methods for the investigation of an adrenal mass. CT enables

differentiation of benign and malignant disease in 60% of cases, demonstrates cystic lesions and allows aspiration or needle biopsy. MRI has a particular value in the recognition of phaeochromocytoma.

In management of incidental adrenal masses, Masses associated with signs and symptoms of function should be evaluated biochemically. If this confirms the presence of a functional tumor, then the tumour should be removed by unilateral adrenalectomy. Solid masses 5.0 cm in diameter or larger should be biochemically evaluated to obtain a baseline assessment and then be removed. Cystic masses 5.0 cm in diameter or larger should undergo fine needle aspiration biopsy. If this yields clear fluid, then the mass may by assumed to be benign. If the aspiration reveals bloody fluid, then the tumour should be biochemically evaluated and be removed. Solid and cystic masses less than 3.5 cm may be followed by serial CT scans performed at intervals of 2,6, and 18 months. If there is any increase in the size of the mass, then it should be biochemically evaluated and removed. If it remains stable, it may be regarded as benign.

Judgment is required for the management of lesions

ranging from 3.5 to 5.0 cm in diameter. Cystic masses may undergo fine-needle aspiration biopsy. If this yields clear fluid, then the mass may be assumed to be benign. For lesions that reveal bloody fluid and noncystic mass, a careful appraisal of the risk-benefit ratio for operative removal must be made for each patient. Patients with relative contraindications to operation, such as obesity, pulmonary disease, or coronary artery disease, can be followed by serial CT scan while younger and healthier patients may be more liberally advised to undergo an elective operation. (Curr. Probl. Surg., Oct. 1991 Rodney and Murray).

AIM OF WORK

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Study recent development in diagnosis and management of adrenal tumours in adults.

ANATOMY

ANATOMY OF THE ADRENAL GLANDS

The adrenal glands lie alongside the upper part of each kidney. They are somewhat asymmetrical, and lie within their own compartment of renal fascia.

RELATION OF ADRENAL GLANDS:

1) The right supra renal gland:

Is situated posterior to the inferior vena cava and the right lobe of the liver, and anterior to the diaghram and superior pole of the right kidney. The base is in contact with the medial and anterior surfaces of the superior pole of the right Kidney. The anterior surface, faces a little laterally, and has a medial, narrow, vertical area not covered by peritoneum, and posterior to the inferior vena cava; and has a lateral area in contact with the liver. The hilum is situated little inferior to the apex and near the anterior border of the gland where the suprarenal vein emerges to join the inferior vena cava.

The posterior surface : is related above to the diaphragm and below to the superior pole and adjacent part of the anterior surface of right kidney.

2) The left Adrenal gland

It is crescentic, its concavity covers the medial border of the left kidney above the hilum. Its medial aspect is convex while its lateral aspect is concave.

Anterior surface : Superiorly it is covered by peritoneum which separates it from the cardiac end of the stomach, forming apart of stomach bed, inferiorly the gland not covered by peritoneum and related to the tail of pancreas, and splenic artery. The hilus is near the lower border of the anterior surface, from which the left suprarenal vein emerges to join the left renal vein. Posterior surface: Joins the left kidney laterally while it is in contact with the left crus of the diaphragm medially. The convex medial border is related to the left coeliac ganglion, left inferior phrenic artery and left gastric artery (Gray, 1973 and last, 1990).

Arteries:

There are three to each, superior adrenal from the inferior phrenic, middle adrenal from the aorta and inferior adrenal from the renal. (Lee Mc Gregor, 1986).

Veins:-

One only which drains, on the right, into the vena cava and on the left, into the left renal (Lee Mc Gregor, 1986).

Lymphatic drainage:

There is a lymphatic plexus under the capsule and in the medulla. From the right adrenal lymphatic drainage is to para-aortic nodes and nodes near the right crus of the diaphragm. On the left side, drainage is to nodes at the origin of the left renal artery and para-aortic nodes. Lymphatics may accompany any vessel reaching the adrenal and, for this reason, lymphatic drainage may reach the posterior mediastinum directly along the inferior phrenic artery (Lee Mc Gregor, 1986).