Updates In Diagnosis And Management Of Pheochromocytoma

Essay
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In General Surgery

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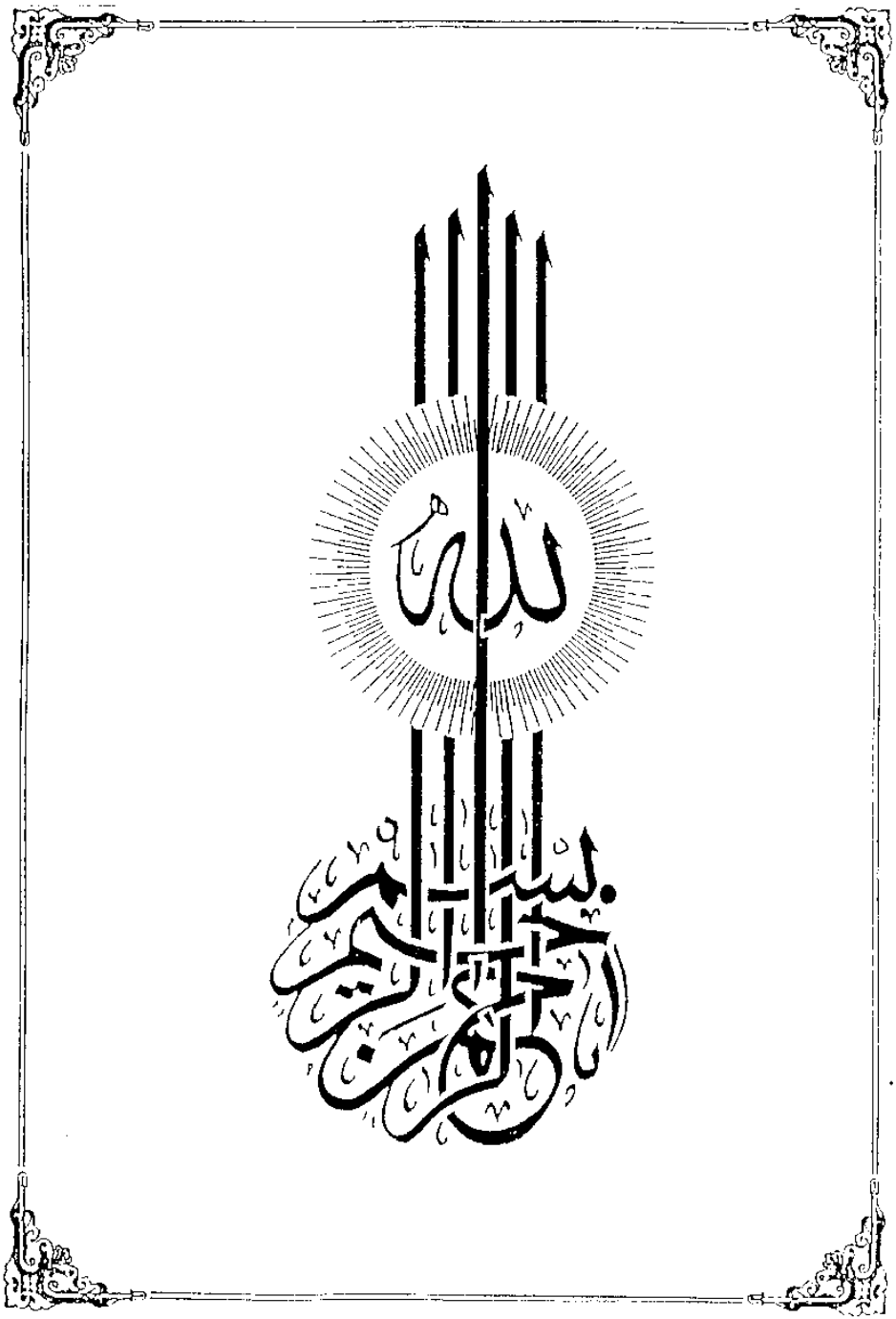

LIST OF CONTENTS

Acknowledgment

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Introduction

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Pheochromocytoma are tumors composed of chromaffin cells derived from the sympathetic nervous system that produce excess catecholamines. It is one of the most common functional tumors treated today. It accounts for 1.35 per 10.000 population but 1:500 hypertensive ***(Norman and Maria, 1982).***

They are named from the Greek "phaeos" (dusky) and "chromos" (color) for the dark brown staining of the tumor cells with chromium salts ***(Justin, 1994).***

Despite the infrequency of pheochromocytoma they are clinically important because they are in variably fatal if not diagnosed and treated but if pheochromocytoma is suspected, diagnosed and appropriately treated, a surgical cure can be expected in 90 percent of patients with this tumor ***(Norman and Maria, 1982).***

Pheochromocytomas can be present in many ways and this combined with their relative rarity explains why the diagnosis is often missed ***(Justin, 1994).***

A high degree of suspicion in patients with new onset of hypertension, hypertension with sudden worsening or development of diabetes mellitus, or a family history of multiple endocrine neoplasia (MEN), neuro ectodermal tumors or simple pheochromocytoma ***(Werbel, 1995).*** Also pheochromocytoma

must be listed in the differential diagnosis of hypertension associated with pregnancy ***(Oishi, 1994).***

During the past half century, the surgical treatment of diseases of the adrenal glands has evolved. This is aided by localization techniques such as computed tomography (CT), selective plasma hormone sampling and the recent development of isotope scanning agent has proven extremely useful in overcoming the limitations of CT scanning for localization for adrenal tumors ***(Norman and Maria, 1982).***

In this essay we will discuss the recent modalities in diagnosis and management of patient with pheochromocytoma focusing on the recent localization techniques available nowadays. Moreover, the pre and post operative management will be discussed and also the surgical treatment form the disease.

CHAPTER I

Anatomy, Histology & Embriology

SURGICAL ANATOMY OF SUPRARENAL GLANDS

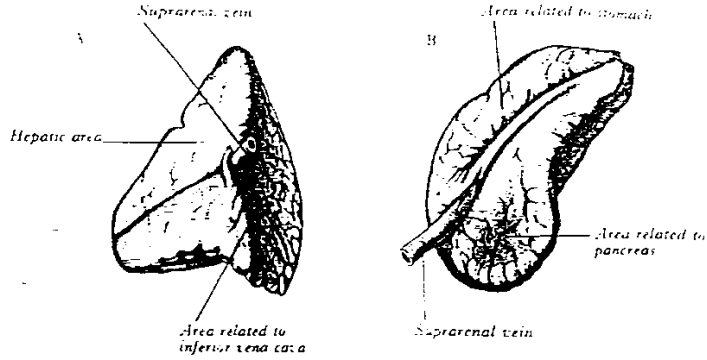
The suprarenal glands are two small yellowish bodies, flat anteroposteriorly. Each one situated immediately antero superior to each superior renal pole. They are surrounded by connective tissue containing much perinephric fat and enclosed in renal fascia but separated from the kidneys by fibrous tissue ***(Gerald et al, 1986)***.

Each has a cortical zone rich in lipids but with no chromatin tissue and an internal medulla staining deeply with chromic salts ***(Peter et al, 1989)***.

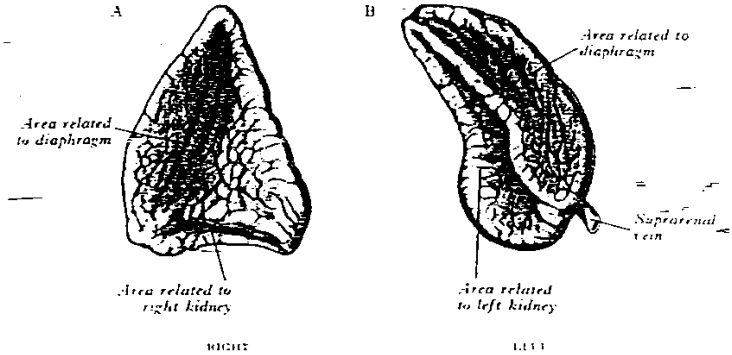
Small masses of identical cortical suprarenal tissue occur often near the main gland and elsewhere as "cortical bodies". Structurally and functionally, cortex and medulla are distinct, despite their forming a single organ ***(Peter et al, 1989)***.

The right gland is an irregular tetrahedron, the left semilunar and usually larger and more superior in level. Each in adults measures about 50mm vertically, 30mm transversely and 10mm in the anteroposterior dimension, weighting about 5gm (the medulla being about one-tenth of the total weight) ***(Gerald et al, 1986).***

At birth the gland is about one-third the size of a kidney but in adults only a thirtieth ***(John et al, 1993)***.

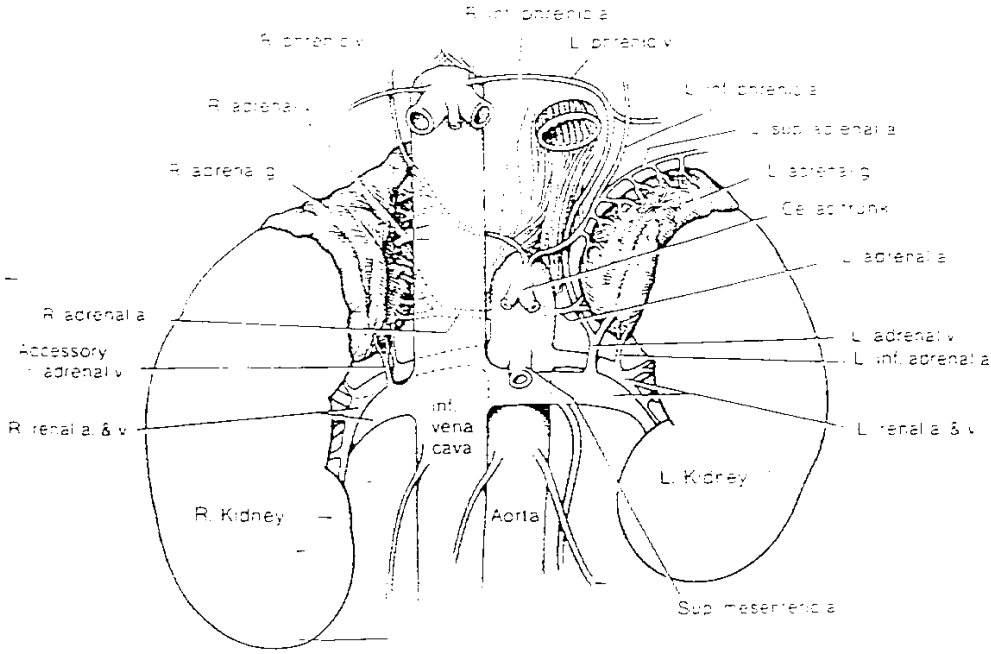


8.237 The suprarenal glands: anterior aspect.



8.238 The suprarenal glands: posterior aspect.

Anterior & posterior aspects of the Adrenals. from ***(Peter et al, 1989).***



Anatomy of the suprarenal gland, from *(Jhon et al, 1983)*.