MANAGEMENT OF PRIMARY LIVER TUMOURS [UPDATES]

An Essay

Submitted for partial fulfillment
of Master Degree in **General Surgery**

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بسم الله الرحمن الرحيم

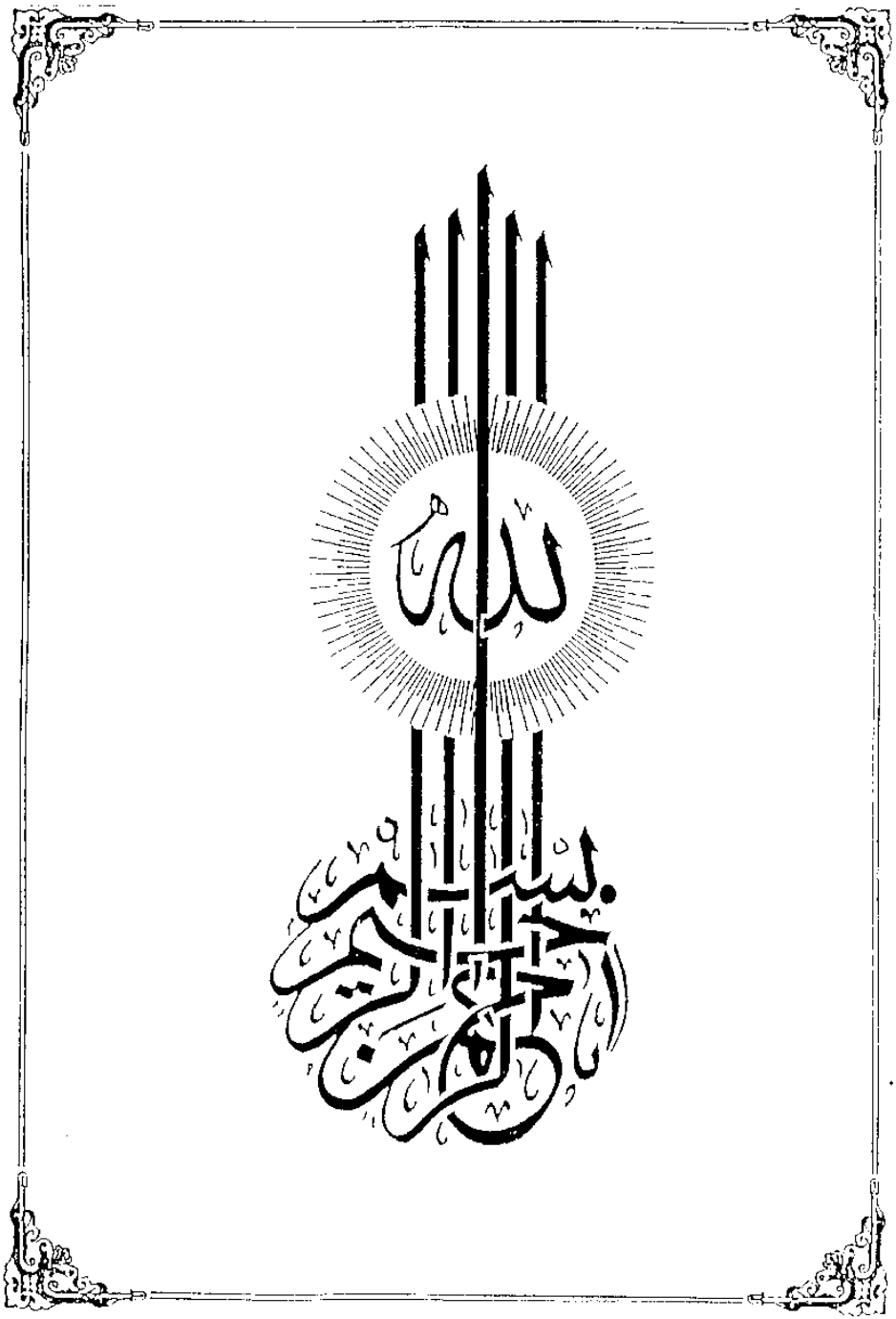
" قالوا سبحانك لا علم لنا

الا ما علمتنا

انك انت العليم الحكيم"

صدق الله العظيم

"البقرة / آية ٣٢"



Dedication
TO...

My Family

Father
Mother
Sister

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Khaled Al-Khafif

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INTRODUCTION

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The understanding of pathological picture of the different types of primary liver tumours and the surgical anatomy of the hepatic veins and portal radicles have made it easy to access safe, and bloodless resection.

With the introduction of new methods of investigations as laboratory, tumour markers, colour Doppler flow imaging, enhanced dynamic C.T., Multi Section FLASH MRI imaging and fine needle biopsy techniques have made it easy to diagnose early and very small lesions.

Surgical treatment in the form of hepatectomy, lobectomy, segmentectomy or subsegmentectomy and liver transplantation are the only curative treatment as indicated.

Non surgical treatment (medical) is only a palliative treatment also it may be combined with surgical treatment as pre and post operative.

The aim of this essay is to study the recent trends in diagnosis and management of primary liver tumours.

Chapter (I)
PATHOLOGY

PATHOLOGY OF PRIMARY MALIGNANT LIVER NEOPLASMS

The liver is composed of hepatocytes, biliary epithelial cells, and mesenchymal tissues that form the supporting structures and vascular channels *(Goodman et al., 1985)*.

The two major types of malignant epithelial tumours of the liver are; hepatocellular carinoma and cholangiocarcinoma. Other less common malignant epithelial tumours include combined hepatocellular and cholangiocarcinoma. hepatoblastoma, bile duct cystadenoma, mucoepidermoid carcinoma, carcinoid and squamous cell carcinoma *(Okuda et al., 1985)*.

Non epithelial malignant tumours are those whose cells of origin or pattern of differentation is considered to be that of the various mesenchymal tissues or their precursors. Thus the liver may be the site of primary fibrosarcoma, liomyoarcoma, rhabdomyosarcoma, angiosarcomas and undifferentiated embryonal sarcoma. These are quite rare *(Goodman et al., 1985)*.

Primary hepatocellular carcinoma is one of the most common malignancies in the world and it is estimated to be responsible for up to 1,250,000 deaths every year *(Chlebowski et al., 1984 and Cook et al., 1985).*

Age :

In different geographical areas, the relationship between age and incidence varies

In low incidence areas such as U.K., the highest age-specific incidence is around 80 years, whilest in South Africa, this occurs in about 40 years *(Blumgart et al., 1987).*

Sex :

In all areas studied, the incidene in males is higher than in females, with an overall ratio 3 :1 but occasionally up to 8 : 1 *(Editorial and Lancet, 1987).*

Race :

In South Africa, the high incidence lies among the black population and in the far east among the Chinese. Both environmental and genetic factors play a role *(Szmuness et al., 1978).*

Classification of primary malignant liver Neoplasms ***(Sternberg, 1989)*** **:**

Epithelial :

Hepatocellular :

* Hepatocellular carcinoma (HCC)
  Fibrolamellar varient
* Combined HCC - cholangiocarcinoma.
* Combined HCC - carcinoid.
* Hepatoblastoma.

Cholangio cellular :

* Cholangiocarcinoma .
* Adenosquamous carcinoma.
* Mucoepidermoid carcinoma.
* Squamous cell carcinoma.
* Combined CC- Carcinoid.
* Biliary cystadenocarcinoma.

Mesenchymal :

Vascular :

* Angiosarcoma.
* Epithelioid hemangioendothelioma
* Kaposi's sarcoma.

Fatty tumours :

* Liposarcoma.

Others :

* Undifferentiated embryonal sarcoma. (malignant mesenchymoma).
* Rhabdomyosarcoma.
* Fibrosarcoma.
* Malignant fibrous histiocytoma.
* Leiomyosarcoma.

Mixed epithelial - mesenchymal :

* Mixed hepatoblastoma.
* Malignant mixed hepatic tumours.
* Carcinoma and sarcoma.

Others :

* Malignant schwannoma.
* Germ cell tumours.
* Primary lymphoma.
* Carcinoid.
* Pheochromocytoma.

HEPATOCELLULAR CARCINOMA

ETIOLOGY :

1 - Viral :

Hepatitis B virus is regarded as a possible oncogenic virus which contributes significantly to the development of most instances of hepatocellular carcinoma *(Sherman and Shafritz, 1984)*.

Recent studies using techniques of DNA by hybridization have demonstrated that a late consequence of chronic type B carriage, is the integration of viral DNA into sequence in the host genome *(Leiberman and Shafritz, 1986)*. This can be demonstrated both in long-term carriers in normal liver and also in hepatocellular carcinoma tissue *(Summers et al., 1978)*.

Hepatitis C virus is now regarded also as an oncogenic virus *(Tana, 1991)*.

2 - Cirrhosis :

It is considered to be a major cause of hepatocellular carcinoma. The macronodular form is more likely to harbour hepatocellular carcinoma than micronodular cirrhosis *(Shikata*

et al.,1976). Alcohol has another major role especially in western world *(Leiber, 1975)*.

3 - Mycotoxins :

As Aflatoxin B, from Aspargillus flavus have been postulated to be a major cause *(Onyemelukue et al., 1980)*.

4 - Iron :

HCC affects 20-30% of patients with idiopathic hemochromatosis and represents their most frequent cause of death *(Borgna-Pignatti et al., 1986)*.

5 - Vena caval obstruction :

A strong association is reported with vena caval osbtruction *(Simons 1982; and Okuda et al., 1982 a)* .

6 - Irradiation and cytotoxic therapy :

Thorotrast- radioactive contrast agent is now obsolete but produces after delay of 20-30 years, both HCC and cholangiocarcinoma and angiosarcomas of the liver. *(Chudecki, 1972)*.