IMAGING MODALITIES OF CANCER GALL BLADDER

THESIS

Submitted in Partial Fulfillment for
the Master Degree of **Radiodiagnosis**

By

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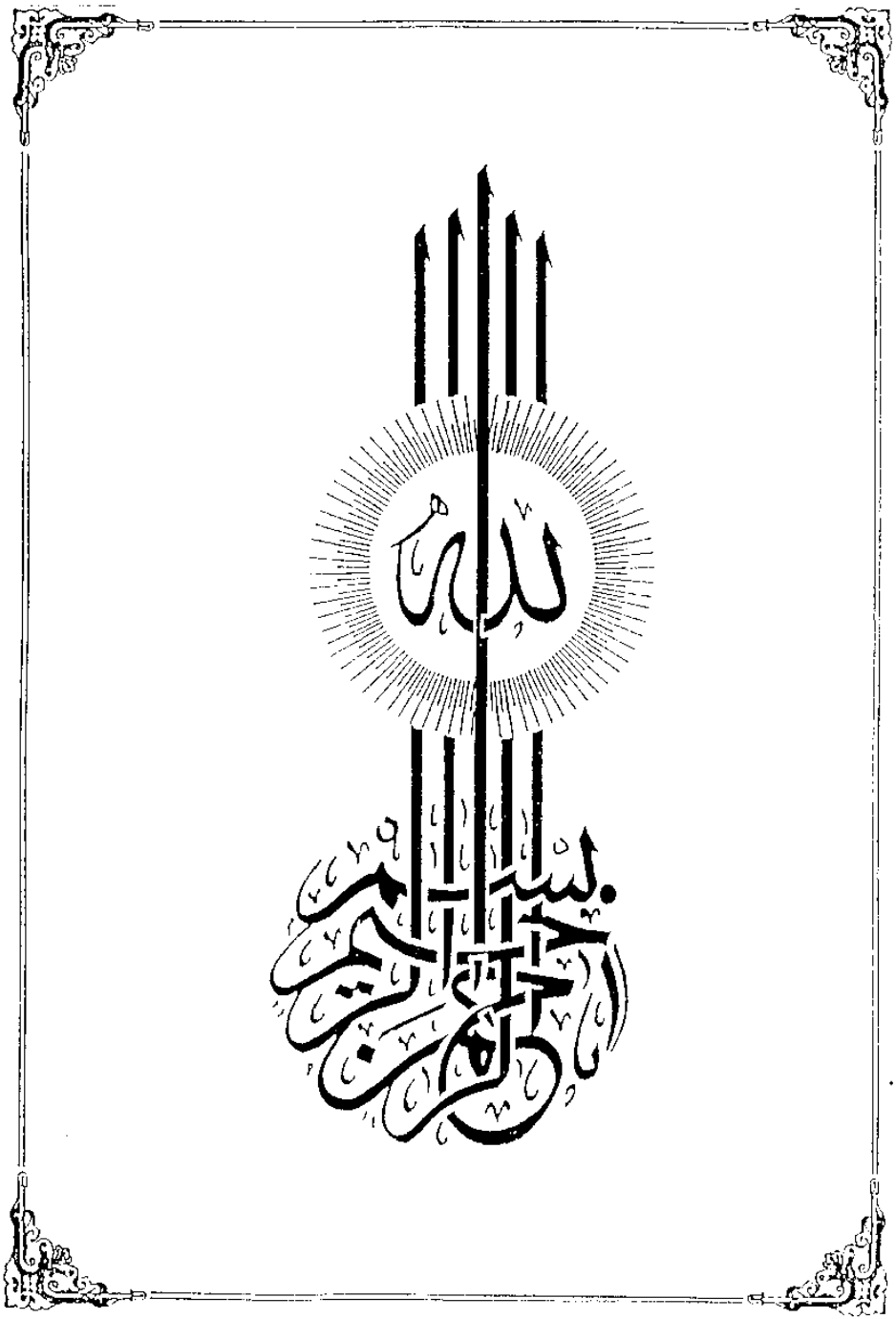
Acknowledgement

I would like to offer my sincere gratitude for ***Prof. Dr. Jannette Boushra Hanna,*** *Professor of Radiodiagnosis, Ain Shams University, for her valuable guidance, patience, endless times in helping me and for supplying me with all the medical and moral support which, if it hadn' t been for, this thesis wouldn't have came out the way it is.*

Safaa Samy Mikhail



Abstract

This thesis about imaging modalities of cancer Gall Bladder begins with an introduction to the subject, passes through the details of Anatomy and Pathology of the Gall Bladder. It also explains the different modalities used in investigating carcinoma of the Gall Bladder and the manifestations of cancer Gall Bladder by these modalities with illustrated cases. The thesis ends with the english summary and conclusion, references and arabic summary.

Contents

List of figures

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INTODUCTION AND AIM OF WORK

INTRODUCTION AND AIM OF WORK

Primary carcinoma of the Gall Bladder is the fifth most common malignancy of the G.I.T. ***[Shieh et al., 1981].***

The prognosis for patients with Gall Bladder carcinoma is extremely poor and its diagnosis is often difficult to be decided pre - operatively ***[Morrow et al., 1983].***

Conventional radiologic methods are usually not helpfull in detecting Gall Bladder carcinoma ***[Berk, 1977]***. New imaging modalities, Ultra - Sound, Computerized axial tomography and Magnetic Resonance Imaging have greatly facilitated the visualization of the Gall Bladder and adjacent structures and have been found to be useful in suggesting Gall Bladder carcinoma ***[Weiner et al., 1984]***.

The aim of this work is to emphasize the role of the new modalities in the diagnosis of Gall Bladder carcinoma.

IMAGING ANATOMY OF THE GALL BLADDER

IMAGING ANATOMY OF THE GALL BLADDER

The location, parts and relations of the Gall Bladder ***(Fig. 1,2 - Diagram 1)*** lies against the undersurface of the right hepatic lobe.

It's bulbous blind end, the fundus projects a little beyond the sharp anterior margin of the liver and touches the parietal peritoneum of the anterior abdominal wall at the tip of the ninth costal margin.

The body of the Gall Bladder, narrower than the fundus, passes backwards and upwards from this point towards the right end of the porta - hepatis. Here it narrows into a neck, from which the cystic duct lies against the porta - hepatis to join the hepatic duct between the two layers of the peritoneum. The cystic duct lies immediately in front of the right main branch of the hepatic artery.

The fundus and the body of the Gall Bladder are firmly bound to the undersurface of the liver by connective tissue and many small cystic veins that passes from the Gall Bladder to the liver substance, the peritoneum covering the liver passes smoothly over the Gall Bladder.

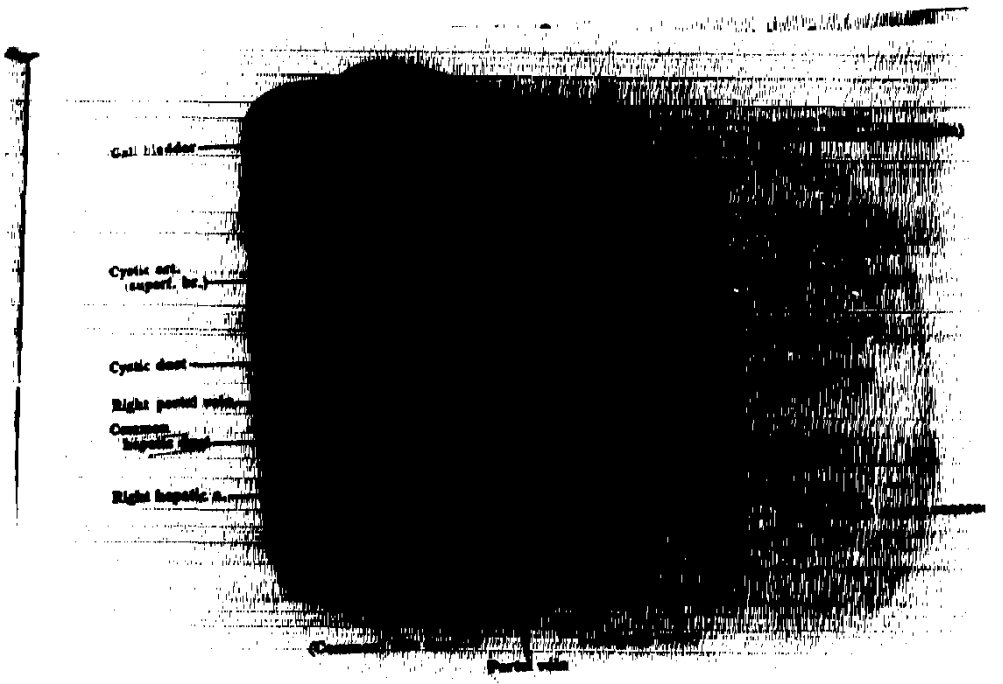

Fig. (1)
Anatomy of porta - hepatis
[After Anderson, 1986]

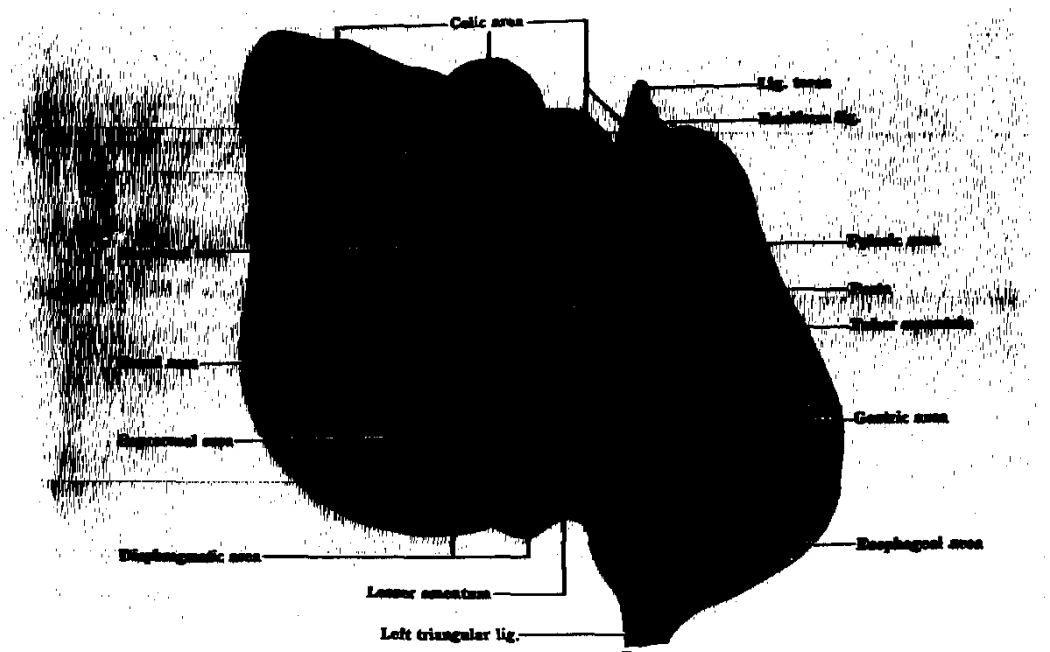

Fig. (2)
Anatomy of the inferior and posterior aspect of the liver
[After Anderson, 1986]

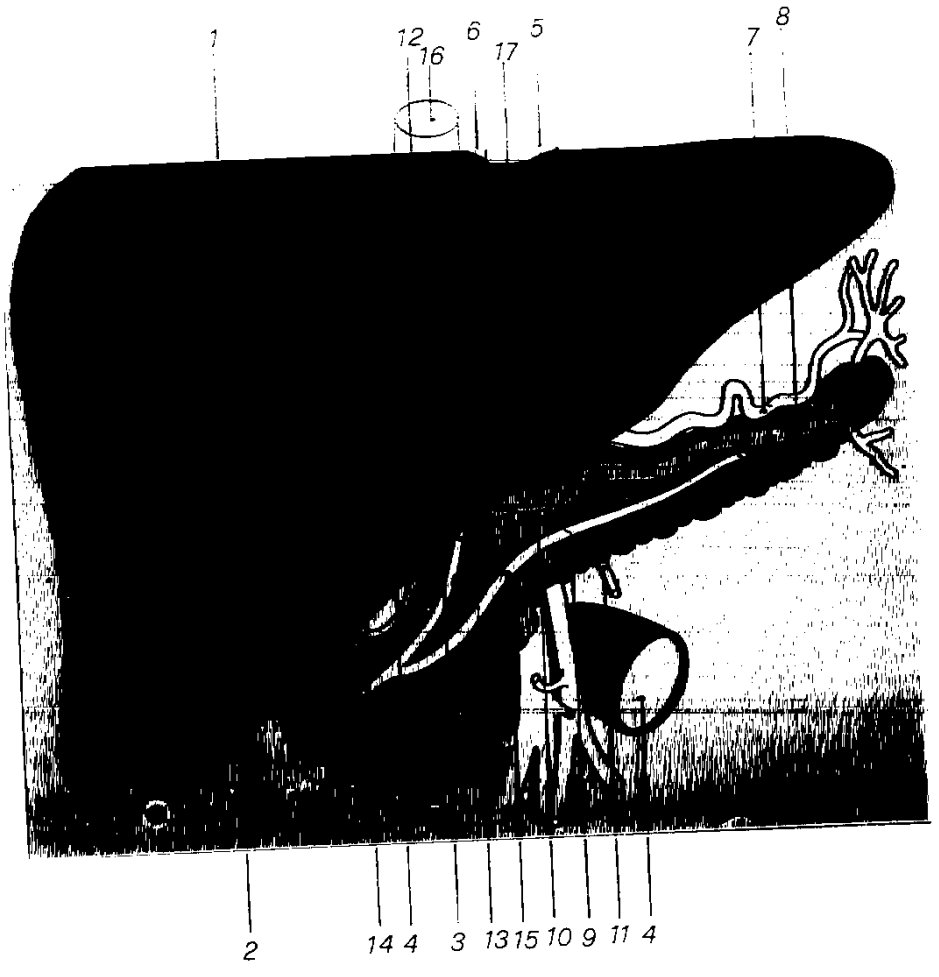

Diagram (1)

Anatomy of the porta - hepatis

1. Liver
2. Gall Bladder
3. Pancreas
4. Duodenum
5. Portal vein
6. Hepatic artery
7. Splenic artery
8. Splenic vein
9. Superior mesenteric artery
10. Superior mesenteric vein
11. Inferior mesenteric vein
12. Hepatic duct.
13. Common bile duct
14. Cystic duct
15. Pancreatic duct
16. Inferior vena cava
17. Falciform ligament

[After Wegener, 1992]

The Fundus of the Gall Bladder lies on the beginning of the transverse colon, just to the left of the hepatic flexure, while the body that lies behind it is in contact with the first part of the duodenum. The undersurface of the liver is sloping so the neck of the Gall Bladder lies at a higher level than the fundus. It lies against the upper part of the free edge of the lesser {Gastro - hepatic} omentum ***[Last, 1984]***.

DUCT SYSTEM

A- Cystic Duct:- About 4 Cms long, runs posteriorly, caudally and towards the left from the neck of the Gall Bladder and joins the hepatic duct to form the common bile duct. From the neck to common duct, it contains spiral folds {Valves of Reister}

B- Hepatic Duct:- Arises from a major duct of the right and left lobes of the liver which leave the porta - hepatis and join to form the main hepatic duct. It runs caudally and to the right in the lesser omentum to join the cystic duct forming the common bile duct.

C- Common Bile Duct:- 7.5 Cms in length, runs caudally in the free edge of the hepato - duodenal ligament with hepatic artery to it's left and portal vein behind. It passes posterior to the superior