



ORIGINAL RESEARCH PAPER

Radiodiagnosis

HOW EFFECTIVE IS THE RADIOLOGICAL DIAGNOSIS OF THE GALL BLADDER?

KEY WORDS: Gall bladder, Radiological, Histopathological.

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ABSTRACT

Gall bladder disease is rather encountered on a daily basis in the OPD's now a day. Many of these get admitted. Most of the cases admitted in the hospitals require radiological intervention. Routine examination of the gall bladder using USG is difficult and challenging. After cholecystectomy has been done it shows different histopathological changes ranging from inflammation to premalignant and carcinoma. Although gall bladder disease is most often found in women, men may have this condition as well. But how far the histopathological reports which are considered to be the gold standard corresponds to the radiological reports is the most sought out question. This study puts in an effort to find the answer for the same.

INTRODUCTION:

Gall bladder disease is rather encountered on a daily basis in the OPD's now a day. Many of these get admitted. Most of the cases admitted in the hospitals require radiological intervention. Routine examination of the gall bladder using USG is difficult and challenging. After cholecystectomy has been done it shows different histopathological changes ranging from inflammation to premalignant and carcinoma. Although gall bladder disease is most often found in women, men may have this condition as well. The term gallbladder disease is used for several types of conditions that can affect your gallbladder. The gallbladder is a small pear-shaped sac located underneath your liver. Your gallbladder's main function is to store the bile produced by your liver and pass it along through a duct that empties into the small intestine. Bile helps you digest fats in your small intestine. Inflammation causes the majority of gallbladder diseases due to irritation of the gallbladder walls, which is known as cholecystitis. This inflammation is often due to gallstones blocking the ducts leading to the small intestine and causing bile to build up. It may eventually lead to necrosis (tissue destruction) or gangrene. There are many different types of gallbladder disease 1,2.

Gallstones develop when substances in the bile (such as cholesterol, bile salts, and calcium) or substances from the blood (like bilirubin) form hard particles that block the passageways to the gallbladder and bile ducts 3,4,5. Gallstones also tend to form when the gallbladder doesn't empty completely or often enough. They can be as small as a grain of sand or as large as a golf ball. Numerous factors contribute to your risk of gallstones 6,7. But how far the histopathological reports which are considered to be the gold standard correspond to the radiological reports is the most sought out question. This study puts in an effort to find the answer for the same.

AIMS AND OBJECTIVES:

How far the histopathological reports which are considered to be the gold standard correspond to the radiological reports of Gall Bladder.

MATERIALS AND METHODS:

The study was done in Srinivasa Institute of Medical Sciences, Mangalore.

The duration of the study is for a period of 18 months from September 2013 to April 2016.

One hundred twenty patients who came to Radiological Diagnosis and showed signs of gall bladder diseases in different Radiological diagnosis methods both prospectively and retrospectively studied. Some cases were chosen when

the gall bladder was already operated. In such cases the earlier reports were studied and noted.

INCLUSION CRITERIA:

Patients with gall bladder disease referred for Radiological opinion.

EXCLUSION CRITERIA:

Non co-operative patients.

The reports were checked both retrospectively as well as prospectively and then reported.

RESULTS:

TABLE 1: AGE DISTRIBUTION

Number	Mean age	Std.Deviation
120	38.98 years	8.84 years

GRAPH 1: SEX DISTRIBUTION

Number	Male	Female
120	74	46

TABLE 3: CLINICAL PRESENTATION

EXTREME IN IN THE MIDDLE OF YOUR UPPER ABDOMEN	63
FEVER	15
CHILLS	6
NAUSEA	89
VOMITING	87
JAUNDICE	91
PALE- OR CLAY-COLORED STOOLS	34

DIAGNOSIS BY HISTOPATHOLOGY:

- Chronic Calculous Cholecystitis - 88
- Chronic Cholecystitis Cholesterosis - 10
- Follicular Cholecystitis - 2
- Acute Calculous Cholecystitis - 4
- Acute Acalculous Cholecystitis - 2
- Chronic Cholecystitis with Evidence of Intestinal Metaplasia - 2
- Gall Bladder shows Poor Presentation with Autolytic Changes and Feature of Chronic Cholecystitis - 1
- Xantho Granulomatous Cholecystitis - 1
- Chronic Cholecystitis with Dysplastic Changes - 5
- Chronic Cholecystitis with Nonspecific Lymphadenitis - 2
- Eosinophilic Cholecystitis - 1
- Adenocarcinoma of Gall Bladder - 2

TABLE 4: RADIOLOGICAL DIAGNOSIS:

Procedure	Number	Positive identification	Not able to diagnose
X-Ray	68	29	39
USG	94	86	08

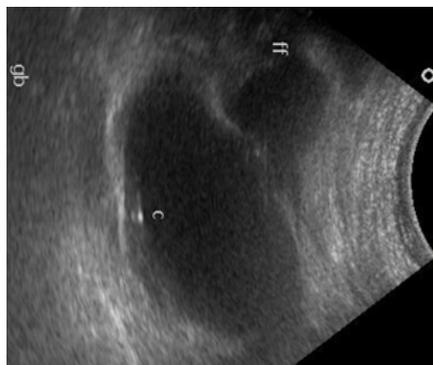
CT	3	3	Nil
MRI	2	2	Nil

Table 5: Most identified Diagnosis

Diagnosis	Frequency
Stones	100%
Inflammations	88%
Benign Lesions	100%
Malignant Lesions	100%

- **The ROC curve is very high in sensitivity and specificity.**

FIGURE 1: USG SHOWING THE GALL BLADDER.



DISCUSSION:

The gallbladder serves as the storage unit for bile produced in the liver. However, bile within the gallbladder may become supersaturated sometimes with cholesterol, leading to crystal precipitation which can occur and has been reported frequently and subsequent gallstone formation. The most common disorders of the gallbladder are related to gallstones and include symptomatic cholelithiasis, acute and chronic cholecystitis, and carcinoma of the gallbladder. Other conditions that can affect the gallbladder include biliary dyskinesia (functional), adenomyomatosis (hyperplastic), and postoperative changes or complications (iatrogenic). Ultrasonography (USG) has been the traditional modality for evaluating gallbladder disease, primarily owing to its high sensitivity and specificity for both stone disease and gallbladder inflammation. US performed before and after ingestion of a fatty meal may also be useful for functional evaluation of the gallbladder. However, USG is limited by patient body habitus, with degradation of image quality and anatomic detail in obese individuals. With the advent of faster and more efficient imaging techniques, magnetic resonance (MRI) imaging has assumed an increasing role as an adjunct modality for gallbladder imaging, primarily in patients who are incompletely assessed with US. MR imaging allows simultaneous anatomic and physiologic assessment of the gallbladder and biliary tract in both initial evaluation of disease and examination of the postoperative patient. Finding out the best possible answers for the pathologies to be diagnosed of the gall bladder is the need of the hour. The perfect diagnosis is only by histopathology otherwise also called as the definitive or confirmatory diagnosis. But for screening procedures the radiological procedures can be of great help.

CONCLUSION

Radiological diagnosis of gall bladder is very high in sensitivity and specificity.

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