

## Original Research Paper

**Incidence of gall bladder carcinoma in cholelithiasis**

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## Article History:

Received on - May 17, 2019

Received in revised form - May 20, 2019

Accepted on - May 21, 2019

**Abstract:**

Gallstones are major cause of morbidity and mortality throughout the world. Diseases of the gallbladder commonly manifest as gallstones disease with variable presentations ranging from asymptomatic gallstones to gallbladder cancer. The clinical manifestations of gallbladder carcinoma are generally indistinguishable from those associated with cholecystitis or cholelithiasis. So this study was done to find Incidental cancer in patients undergoing cholecystectomy for gallstone disease on the basis of histopathological examination.

**Key Words:**

Cholecystectomy, Carcinoma Gall Bladder, Histopathology

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**Introduction**

Gallstones are major cause of morbidity and mortality throughout the world. In United States alone, the diagnosis and treatment of gallstones accounts for more than \$5 billion in direct costs, including a half million cholecystectomies<sup>1</sup>. More than 70% of gallstones are formed by precipitation of cholesterol and calcium, with pure cholesterol stones accounting for only a small (<10%) portion. Pigment stones, further subclassified as black or brown stones, are caused by precipitation of concentrated bile pigments, the breakdown products of haemoglobin. Four major factors explain most gallstone formation – supersaturation of secreted bile, concentration of bile in gallbladder, crystal nucleation, and gallbladder dysmotility. Carcinoma of gallbladder is the 5th most common cancer of digestive tract and the most common malignancy of the biliary tract.<sup>[2,3]</sup> Its clinical manifestations are generally indistinguishable from those associated with cholecystitis or cholelithiasis and its incidence is also variable in India. The overall mean survival rate for patients with advanced gallbladder cancer is 6 months, with a 5-year survival rate of 5%.

**Aims and Objectives**

To find incidental cancer in patients undergoing cholecystectomy for gallstone disease on the basis of histopathological examination

**Material and Method**

Three hundred patients with gallstones satisfying the selection and exclusion criteria, undergoing cholecystectomy were included in this study. The resected specimens were subjected to histopathological examination.

After completion of study, observations obtained were tabulated and analyzed statistically.

**Inclusion Criteria**

- Patients having gallstones.
- Fit for general anaesthesia.
- Patients willing to participate in the study.

**Exclusion Criteria**

- Patients suffering from pre-existing cancer

**Results**

TABLE 1

| SEX    | NO. OF PATIENTS (%age) |
|--------|------------------------|
| MALE   | 36 (12%)               |
| FEMALE | 264 (88%)              |
| TOTAL  | 300                    |

Out of the 300 patients with cholelithiasis, 264 were females and 36 were males.  
(Male: Female ratio 1:7.33)

**TABLE 2 : SIZE OF THE LARGEST STONE**

| SIZE OF STONE | NO. OF SPECIMENS |
|---------------|------------------|
| <3 cm         | 300              |
| >3 cm         | 0                |
| TOTAL         | 300              |

**TABLE 3: GALLBLADDER WALL THICKNESS**

| WALL THICKNESS | NO. OF PATIENTS (%age) |
|----------------|------------------------|
| <3mm           | 277 (92.33%)           |
| >3mm           | 23 (7.67%)             |
| TOTAL          | 300                    |

The gallbladder wall thickness was increased in 23 patients as per the ultrasonography findings. The wall thickness was found to be more in symptomatic patients and patients with longer duration of symptoms.

**TABLE 4**  
**LESIONS OBSERVED ON MICROSCOPIC EXAMINATION IN RESECTED GALLBLADDERS**

| HISTOPATHOLOGICAL FINDINGS | NO. OF SPECIMENS (%age) |
|----------------------------|-------------------------|
| ACUTE CHOLECYSTITIS        | 14 (4.67)               |
| CHRONIC CHOLECYSTITIS      | 283 (94.33)             |
| CARCINOMA                  | 3 (1%)                  |
| DYSPLASIA                  | -                       |
| METAPLASIA                 | -                       |
| CARCINOMA IN SITU          | -                       |
| POLYP                      | -                       |

The histopathological results of 300 specimens showed acute cholecystitis in 14(4.67%), chronic cholecystitis in 283(94.33%) and carcinoma in 3(1%). Dysplasia, metaplasia, carcinoma in situ and polyp were not found in any.

### Discussion

Carcinoma of the gallbladder is the most common malignancy of the biliary tract. When compared with the worldwide incidence of hepatocellular carcinoma(HCC), gallbladder carcinoma accounts for less than 10% of annual cases of primary hepatobiliary cancer.

The incidence of carcinoma gallbladder in India ranges from 1.01 per 100,000 for males to 10.1 per 100,000 for females ( ICMR 1996) ). Khanna et al in 2003 reported incidence of gallbladder carcinoma as 2.3 and 1.01 per 100,000 in female and male population respectively<sup>4</sup>. The incidence of carcinoma gallbladder varies widely in different studies. Some studies reported incidence of carcinoma gallbladder as 1.4% and 0.82% respectively<sup>5,6</sup>. The incidence in our study, 1% is thus comparable to other studies. The risk of carcinoma gallbladder in patients with gallstones may be increased 4 to 7 times<sup>7</sup>. Patients with gallstones >3cm in diameter have much higher risk<sup>8</sup>. Csendes et al reported that significantly more patients had one stone in the asymptomatic group, whereas in the group with gallbladder carcinoma significantly more patients had multiple and larger gallstones<sup>9</sup>.

### Conclusion

The histopathological findings revealed that 283(94.33%) of specimens showed chronic inflammation and 14(4.67%) had acute inflammation. There was evidence of frank carcinoma in 3(1%) specimens. No specimen with dysplasia, metaplasia, carcinoma in situ and polyp was found. Early onset of gallstone disease, especially in women, and late presentation of patients for surgical treatment result in prolonged exposure of the gallbladder to gallstones, increasing size of gallstone with increasing age and various complications of long standing cholelithiasis, all are risk factors for gallbladder carcinoma.

However, further clinical studies are required before a definite conclusion to be Drawn.

**Conflict of Interest:** None

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