

Frequency of Incidental Gallbladder Carcinoma Following Cholecystectomy for Symptomatic Gallstone Disease

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ABSTRACT

- Objective** To determine the frequency of incidental carcinoma of the gallbladder in specimens following routine cholecystectomy.
- Study design** Descriptive case series.
- Place & Duration of study** Department of Surgery, Hayatabad Medical Complex Peshawar, from February 2008 to January 2011.
- Methodology** All patients with symptomatic gallstone disease of either gender having age range between 12-70 year were included. Patients with diagnosed gallbladder malignancy, gallbladder mass, empyema gallbladder and gallstones associated with obstructive jaundice were excluded. Following cholecystectomy all the specimens were sent for histopathological examination.
- Results** Two hundred and sixty patients including 65 males and 195 females (M: F ratio 1:4) aged 12-70 year and having a mean age of 41.7 year (\pm SD 2.4), were studied. Commonest presentations were pain right hypochondrium and a positive Murphy's sign (87.71%) followed by dyspepsia (55%), nausea, vomiting (40%), pyrexia (31.92%) and weight loss (05%). Eleven (4.23%) patients had a diagnosis of malignancy of gallbladder at histopathology examination. Mean age for patients with malignancy was 55.25 year with a male to female ratio of 01:10. Well differentiated adenocarcinoma was reported in 45.45% cases, moderately differentiated in 36.36%, poorly differentiated in 09.09% and undifferentiated in 09.09% patients.
- Conclusion** Routine histopathology of gallbladder following cholecystectomy is helpful in early detection of carcinoma gallbladder.
- Key words** Cholecystectomy, Incidental carcinoma gallbladder, Histopathology.

INTRODUCTION:

Gallbladder carcinoma is rare in the West as compared to the high incidence in the Eastern countries.¹ Carcinoma of the gallbladder is one of the commonest biliary tract malignancies and ranked fifth amongst the gastrointestinal cancers.^{1,2} Gender wise it is more frequent in females and the highest incidence is noticed in the sixth and seventh

decades of life,¹⁻⁴ Gallstones are a consistent feature in 60-95% patients with gallbladder cancer. Various studies in Pakistan have quoted a frequency of 6-28% carcinoma gallbladder in patients with gall stone disease.^{5,6}

Risk factors for carcinoma gallbladder include cholelithiasis, adenomatous polyps of the gallbladder, gallbladder wall calcification, choledochal cysts and chemical carcinogens.⁷ Gallbladder cancer is usually an incidental finding, diagnosed on histological examination following cholecystectomy for cholelithiasis.³ Majority of the gallbladder carcinomas are adenocarcinomas, others less common are papillary carcinomas, well differentiated to poorly

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differentiated infiltrating carcinomas and squamous cell carcinomas.¹

The purpose of this study was to find out the frequency of gallbladder carcinoma in specimens following cholecystectomy for gall stone disease.

METHODOLOGY:

This descriptive case series was conducted at the Department of General Surgery, Hayatabad Medical Complex Peshawar from February 2008 to January 2011. A total of 260 patients having gallstone disease were included. Patients with diagnosed gallbladder malignancy, gallbladder mass, empyema, gallstones with associated obstructive jaundice and those patients who did not complete the follow-up schedule were excluded.

Detailed history and clinical examination and necessary investigations were performed including blood complete picture, liver function tests and ultrasound abdomen. All the patients underwent open cholecystectomy and the gallbladder specimens were sent for histopathological study. Patients with positive histology for carcinoma were followed up in OPD at two weeks, two months and six months after surgery. Data was collected and analyzed through SPSS version 11.

RESULTS:

In this study of 260 patients, 65 were males and 195 females, having a male to female ratio of 1:4 (M:F=1:4). Mean age was 41.7 year (±2.4 year) with majority of patients falling in age group of 41-50 year (table I). The most frequent clinical presentation was pain in right hypochondrium and a positive Murphy’s sign in 223 (85.71%) patients followed by dyspepsia in 143 (55%), nausea and vomiting in 104 (40%), pyrexia in 83 (31.92%) and weight loss in 13 (5%) cases.

Two hundred and forty nine (95.76%) patients had

| Age in year | Number of Patients | Malignancy |
|-------------|--------------------|-------------|
| 12-30 | 25 (9.61%) | 00 |
| 31-40 | 53 (20.38%) | 00 |
| 41-50 | 109 (41.92%) | 02 (18.18%) |
| 51-60 | 48 (18.46%) | 05 (45.45%) |
| 61-70 | 25 (9.61%) | 04 (36.36%) |
| Total | 260 (100%) | 11 (100%) |

non-neoplastic inflammatory gallbladder disease and 11 (4.23%) patients had a positive histology for neoplastic gallbladder lesion. Age for malignancy varied from 41 to 70 year with mean age of 55.25 year and male to female ratio of 1:10 (M:F=1:10). In 11(4.23%) patients with a positive histopathology for neoplastic lesions, 05 (45.45%) cases were diagnosed as well differentiated adenocarcinoma (table II).

| Tumor (Adenocarcinoma) Grade | No. of Patients | (%) |
|------------------------------|-----------------|--------|
| Well Differentiated | 05 | 45.45% |
| Moderately Differentiated | 04 | 36.36% |
| Poorly Differentiated | 01 | 9.09% |
| Undifferentiated | 01 | 9.09% |

DISCUSSION:

Although a rare entity, carcinoma of the gallbladder is the commonest malignancy of the billiary tree and is usually an incidental finding following surgery for the gallstone disease. In its early stages, the disease has non-specific clinical presentation and its confirmation is not possible until after surgical removal of the gallbladder.⁸ Diagnosed at early stage, this cancer carries an excellent prognosis of five years survival rates between 90-100%.⁹

In the current series of 260 patients who underwent routine cholecystectomy for gallstone disease, the incidence of primary gallbladder malignancy was 4.23% which is almost comparable to other national studies e.g 5.9% by Naqvi SHQ,¹⁰ and 6.15% by Khalid AM,¹¹ but these values are higher as compared to 1-3.3% reported from other Western countries.¹²⁻¹⁴ Among the eleven patients with positive histology, ten (90.90%) were females and one (9.09%) male patient (M:F-1:10) with clear female preponderance compared to 1:9 in a national study reported by Mohammad RS et al.¹⁵ Similarly an international study has reported a figure of 1:14.¹⁶ The mean age for gallbladder cancer in our study was 55.25 year which is comparable to that reported by Haq I et al.¹⁷ It is comparable to an international study quoting 56.25 year.¹⁸

Gallstones are a well established risk factor for the development of gallbladder cancer. This association

has been well emphasized by Daphna et al as gallstones are present in 70-92% of patients with carcinoma gallbladder.¹⁹ The reason being that gallstones cause recurrent irritation and inflammation of the gallbladder leading to mucosal dysplasia and with passage of time to malignancy in older age group.¹² The relationship of gallstones duration and development of gallbladder carcinoma has been well emphasized.¹¹

In the present study all the incidental carcinomas were reported in symptomatic patients and histopathologically diagnosed as adenocarcinoma, being graded from well differentiated to undifferentiated types. Majority of the primary incidental carcinomas were reported to be in early stages and well differentiated. Almost similar findings have been reported by Tantia et al¹⁸ and Vincenzo et al.²⁰

Decision regarding further management of incidental carcinomas of gallbladder depends upon the stage of the disease and general fitness of the patient. Complete surgical resection, when performed at an early stage of the cancer, remains the only potential curative treatment.¹¹ Chemotherapy and radiotherapy having a role as an adjuvant treatment for gallbladder cancer, remains unestablished.²¹ It is well justified that routine histopathology of all gallbladder specimen following cholecystectomy for gallstone disease be performed, as incidental carcinoma finding, definitely affects the management and thus the clinical outcome.

CONCLUSION:

Routine histopathology of every cholecystectomy specimen must be looked for possible tumor as carcinoma gallbladder at an early stage has favorable prognosis.

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