Frequency of carcinoma gallbladder in cases of cholelithiasis undergoing cholecystectomy at tertiary care hospital

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Objective
To determine the frequency of carcinoma of gall bladder in patients of cholelithiasis undergoing cholecystectomy at our institution.

Patients and Methods
This descriptive study was carried out at Department of surgery, Combined Military Hospital, Rawalpindi from 13th of March 2008 to 13th of Aug 2008. 100 consecutive cases of cholelithiasis who underwent cholecystectomy were included in the study by convenience non-probability sampling. All gall bladder specimens were sent for histopathology at AFIP. The data were analyzed by SPSS v 10.0.

Results
Out of 100 patients, there were 25 (25%) male and 75 (75%) female. The age ranged from 25 to 80 years (mean 47.71±9.91). Mean age for females was 47.82±9.15 and for males was 46.56±9.48 year. Out of 100 patients, 2 (2%) had carcinoma gallbladder. Both were females, 2 out of total 75 females (2.7%). Their ages were 45 and 80 year. No case of carcinoma was found in 25 males in this study.

Conclusion
We found gallbladder carcinoma in 2% cholelithiasis patients. Therefore, all the gallbladder specimens should be carefully inspected and should be subjected to histopathological evaluation. (Rawal Med J 2012;37:406-408).

Keywords
Cholelithiasis, carcinoma gallbladder, gallstones, malignancy.

INTRODUCTION
Cholelithiasis is the major cause of morbidity and mortality throughout the world.¹ At least 10% of the general population have gallstones while only a small percentage of them are symptomatic, needing cholecystectomy.²,³ Gallstones may cause morphological changes in gallbladder mucosa ranging from inflammation to malignancy.³ Carcinoma of gallbladder is a rare but lethal disease.¹ Sixty to ninety percent of carcinoma gall bladder cases have cholelithiasis.⁴ Clinical presentation of both diseases may be similar and both are common in females, therefore mostly it is an incidental finding. In Pakistan different studies show 4-12% incidence of carcinoma with cholelithiasis.³ The purpose of this study was to determine the frequency of carcinoma gall bladder in cases of cholelithiasis undergoing cholecystectomy in our set up.

PATIENTS AND METHODS
This study was carried out at the Department of Surgery, Combined Military Hospital (CMH) Rawalpindi, Pakistan, which is a tertiary care hospital. The study was carried out from 13th of March 2008 to 13th of August 2008. The sampling technique was convenience (Non Probability) sampling. All patients diagnosed as cholelithiasis on ultrasonography and undergoing cholecystectomy were included in the study. Patients diagnosed as carcinoma gallbladder and with no evidence of cholelithiasis were not included in the study. The histopathology of gallbladder specimens was carried out at Armed Forces Institute of Pathology (AFIP) Rawalpindi. It was labeled and submitted to AFIP along with a request form containing the relevant clinical data of the case. Histopathology of gallbladder was taken as diagnostic. Patients were included after a written consent. History and thorough clinical examination was carried out on all patients. All patients were counseled about the procedure, either open surgery or laparoscopic surgery with consent to convert into open procedure, if need arises. Routine and specific
investigations were carried out. Pre-anesthesia evaluation was done. The procedures were performed under general anesthesia with endotracheal intubation. The data were analyzed by SPSS v 10.0.

RESULTS
A total number of 100 patients were included in this study which was carried over a six months period. Cholecystectomy was done, by either open or laparoscopic method. There were 25 (25%) male and 75 (75%) female patients. The age of the patients ranged from 25 to 80 year. Overall mean age was 47.71±9.91 year. Mean age for females was 47.82±9.15 and mean age for males was 46.56±9.48 year.

Out of 100 patients, 2 (2%) were found to have carcinoma of gallbladder on histopathology. Both the patients found to have carcinoma were females, 2 out of total 75 females (frequency of 2.7%). The two females diagnosed to have carcinoma gallbladder were 45 and 80 year old. No case of carcinoma was found in the 25 males (frequency 0%).

DISCUSSION
Gallbladder carcinoma was first described by De Stoll in 1771. It occurs more often in females and more commonly in the seventh decade. It is the most common malignancy of biliary tract. Gallbladder carcinoma carries a high five year mortality and low survival rate. Stones and chronic inflammation are the risk factors for carcinoma of gallbladder. Cholelithiasis is found in up to 40%-100% patients of gall bladder carcinoma and is considered the most common risk factor independent of age or gender. According to Daphna et al gallstones are present in 70-92% of patients with carcinoma gallbladder. The risk of developing carcinoma is directly proportional to the gallstone size. The relative risk of developing gallbladder carcinoma rises from 2.4 for stones 2.02.9 cm in diameter to 10.1 for the gallstones larger than 3.0 cm in diameter. The incidence of gallbladder cancer is approximately seven times more common in patients with gallstones and chronic cholecystitis than in those without gallstones.

The literature review revealed that that 0.3% to 2.85% of the patients who undergo cholecystectomy for presumed benign disease are found to have carcinoma of gall bladder. The incidence of carcinoma gallbladder seen in cholecystectomy samples reported in various international studies are 0.3% by Daphna et al, 1.9% by Amanullah et al, 0.6% by Tantia et al, 0.9% by Morera et al, 0.9% by Mittal et al and 1.4% by Shreshta et al. The incidence of this disease in Pakistani studies has been reported as 6.9% by Nawaz T et al, 5.9% by Naqvi et al, 5.21% by Siya et al, 4% by Davanand et al and 3.79% by Iqbal M et al. This significantly high ratio of gall bladder carcinoma seen in Pakistani studies is probably due to inadequate pre-operative evaluation. In our study, the frequency of carcinoma was 2% which is comparable with the western studies.

Most western studies have reported higher incidence of carcinoma gallbladder in 6th & 7th decade of life and it appears to rise with age. Some studies have reported that gallbladder malignancy is a disease of elderly females with cholecystitis. However, in Pakistan, gallbladder malignancy occurs at an early age and more common in females.

CONCLUSION
Gallbladder carcinoma and gallstones have strong association. The gallstones, whether silent or symptomatic, are strongly associated with carcinoma gallbladder. Even if gallstones are silent, they need attention especially in areas where the incidence of gallbladder cancer is high. Therefore, all the gallbladder specimens should be carefully inspected and should be subjected to histopathological evaluation.

REFERENCES
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Frequency of carcinoma gallbladder in cases of cholelithiasis undergoing cholecystectomy