Radiological spectrum of findings in 200 cases of Gallbladder carcinoma in a tertiary care center in eastern India

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Abstract
Gallbladder cancer is a common malignancy of the biliary tract. High incidence of Ca GB has been noted in eastern India in recent times. Most patients with Gallbladder carcinoma have a late presentation. This is a retrospective study based upon findings on CECT Abdomen in histopathologically proven cases of carcinoma GB in a tertiary care centre in eastern India for a period of 2 years. Most common presentation seen was of a mass replacing or obscuring the gall bladder (45%) followed by diffuse/eccentric focal irregular nodular wall thickening (40%) and intraluminal polypoidal mass in the GB (15%). In this study, 164 cases i.e. 82% presented with features of adjacent hepatic parenchymal infiltration. Other features assessed in the study were presence of calculus in GB lumen (86.5%), features of adjacent hepatic parenchymal infiltration (82%), adjacent bowel infiltration (45%), bile duct infiltration (63%), metastasis to liver and lungs (78% and 29% respectively), nodal disease and presence of metastatic deposits in various areas. Originating in a small organ functioning merely for the storage of bile in anticipation of a meal, this distinctive malignancy has disastrous outcomes. In fact, cholecystectomy in those at risk and with even asymptomatic cholelithiasis can prevent the tumor from arising, although such an approach carries inherent risks and cost.

Keywords: Gallbladder Carcinoma, Cholelithiasis, tertiary care center

Introduction
Gallbladder cancer is a common malignancy of the biliary tract, representing 80%-95% of biliary tract cancers worldwide. High incidence of Ca GB has been noted in eastern India in recent times, though the reason has been largely unknown [1]. Less than 10% of patients have tumors that are resectable at the time of presentation, while nearly 50% have lymph node metastasis. Notorious incidences of recurrence has been seen even with post op cases of Ca GB [2].

This is a retrospective study based upon findings on CECT Abdomen in histopathologically proven cases of carcinoma GB in a tertiary care centre in eastern India and assessment of role of CECT in diagnosis, evaluation of various morphological variants, staging and surgical resectability [3]. Carcinoma GB usually has three major patterns of presentation on cross sectional imaging. The three patterns include mass replacing or obscuring the gall bladder fossa often with invasion of the adjacent liver, intraluminal polypoidal mass in the GB and diffuse/eccentric focal irregular nodular wall thickening with post-contrast enhancement.

Materials & Methods
Type of study: Retrospective study

Sample size: 200 histopathologically proven (FNAC/FNAB/ from post-operative specimen biopsy) cases of carcinoma GB.

Equipment: helical CT scan examination on a 128 slice GE Optima 660 CT scanner.

Duration of study: 2 years (August 2016 to August 2018).
Results and discussion

Most common presentation seen was of a mass replacing or obscuring the gall bladder (90 cases i.e. 45%). Whereas, Diffuse/Eccentric focal irregular nodular wall thickening was seen in 80 cases i.e. 40% cases. Approximately 30 cases i.e. 15% of carcinomas present as an intraluminal polypoidal mass in the GB.

The study comprised of 83 males and 117 females, suggestive of a female predominance in study. The striking feature of this finding however was a significant increase in males affected by Ca GB, as compared to global female: male incidence ratio of 4:1.

The study mostly affected people in the range of 41-60 years i.e. 113 patients, suggestive of increased incidence in that particular age group.

Most common presentation seen was of a mass replacing or obscuring the gall bladder fossa (Image 1) (90 cases i.e. 45%). Eccentric focal irregular nodular wall thickening (Image 2) was seen in 80 cases i.e. 40% cases [3]. Approximately 30 cases i.e. 15% of carcinomas present as an intraluminal polypoidal mass in the GB (Image 3).
In this study, 164 cases i.e. 82% presented with features of adjacent hepatic parenchymal infiltration. (Image 4). 173 cases i.e. 86.5% presented with a calculus in GB lumen. (Image 5).

90 cases i.e. 45% presented with adjacent bowel infiltration. (Image 6). 126 cases i.e. 63% presented with bile duct infiltration. Distant metastasis to liver was noted in 156 cases i.e. 78%, and to lung was noted in 58 cases i.e. 29%. Nodal disease was noted in 189 cases i.e. 94.5%, with enlarged nodes in pericholecystic, porta hepatis, portocaval, periportal, peripancreatic, subhepatic, retroperitoneal, mesenteric, and iliac stations. Omental deposits were noted in 55 cases i.e. 27.5%, mesenteric deposits in 37 cases, i.e. 18.5%, perihpatic deposits in 43 cases i.e. 21.5% as well as mesorectal deposits in 2 cases i.e. 1% [4].

**Conclusion**

Gallbladder cancer has a highly variable prevalence, becoming a common gastrointestinal malignancy in certain populations, mostly in the eastern part of India. Surgery represents the only potential cure. Unfortunately, the usual late presentation means an advanced stage with potential nodal involvement and leads to recurrences despite attempted resection. Thus, early diagnosis is imperative as surgery can be curative. Improved imaging modalities as well as accurate diagnostic markers will potentially help outcomes. Cholelithiasis has shown strong association with Ca GB, as also shown in this article with prevalence of 86.5%. Diagnosis may come at the time of cholecystectomy for gallstones, although preoperative imaging with ultrasound and CT scan is providing an important advance. Originating in a small organ functioning merely for the storage of bile in anticipation of a meal, this distinctive malignancy has disastrous outcomes. In fact, cholecystectomy in those at risk and with even asymptomatic cholelithiasis can prevent the tumor from arising, although such an approach carries inherent risks and cost.

**References**


