

# Invasive Adenocarcinoma of the Gallbladder as Incidental Finding on Histopathology Report

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## ABSTRACT

Carcinoma Gallbladder is seen frequently on histopathological analysis in gallbladders removed for gallstone disease via laparoscopic approach. The overall survival is poor, however with early recognition and appropriated stage adjusted therapy a good survival rate with excellent functional outcomes is achievable.

**Keywords:** Carcinoma, Gallbladder, Histopathological analysis, Stage adjusted therapy, Survival rate.

## INTRODUCTION

Gallbladder carcinoma is the fifth most common neoplasm of the gastro intestinal tract and carries an overall incidence of 3 per 100000 people [1]. It is found in 0.2%-3% of all cholecystectomies and 0.09%-2% of all laparoscopic cholecystectomies [2]. Around 70% cases are diagnosed as postoperative incidental findings on histopathology (incidental gallbladder carcinomas) [1]. In early disease, a 5-year survival rate of 75% can be achieved if stage-adjusted therapy is administered [3].

## CASE PRESENTATION

We present the case of a 61 years old female with no known comorbid, who was diagnosed to have Symptomatic Gallstones on the basis of history, examination and ultrasound imaging.

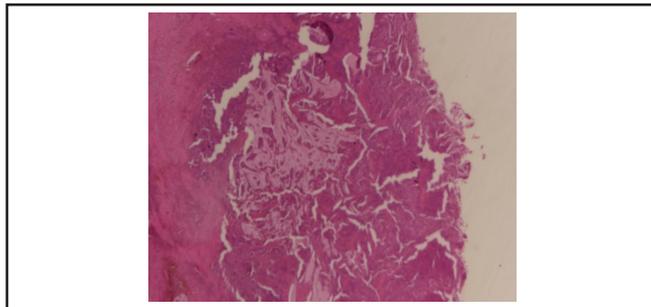
After necessary pre-operative evaluation, she underwent Laparoscopic Cholecystectomy on 18<sup>th</sup> April 2019.

## OPERATIVE FINDING

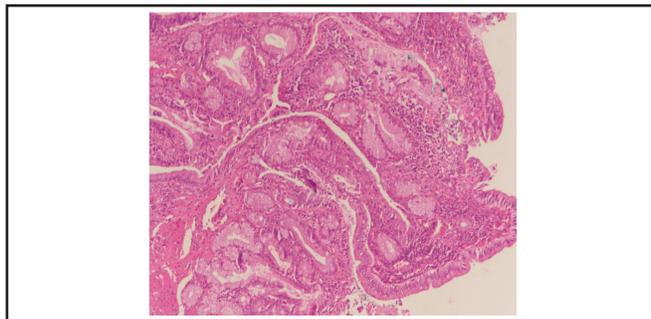
The operative finding was of an acutely Inflamed, distended, thick walled mucocele gallbladder with dense omental adhesions near fundus and body. Large stone was found impacted in the neck, normal anatomy of Calot's Triangle and minimal spillage of bile during the surgery.

## HISTOPATHOLOGY DETAILS

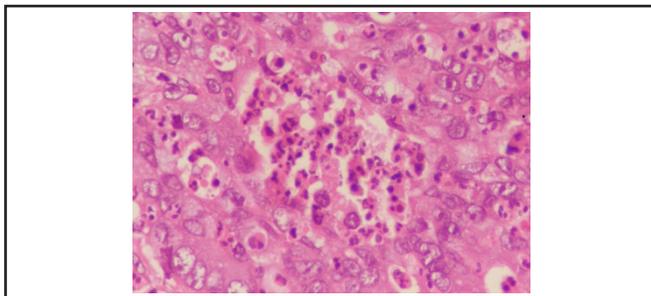
The histopathology revealed infiltrating glandular neoplasm as incidental finding (**Figs. 1-3**), which was invading the perimuscular connective tissue on the hepatic side (**Fig. 4**); cystic duct margin was 4.8 cm away from the tumor, serosa was also tumor free.



**Fig. (1):** Invasive Adenocarcinoma of Gallbladder (H & E 2 X).

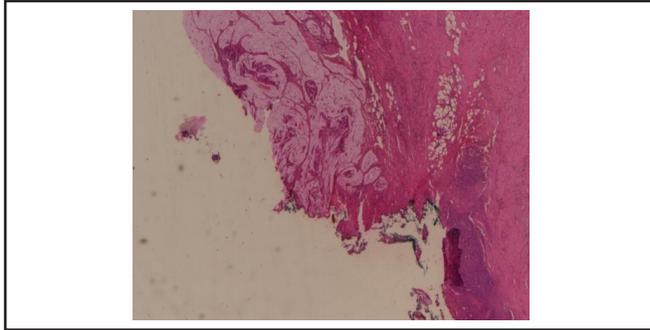


**Fig. (2):** Invasive adenocarcinoma of gallbladder with high grade dysplasia of adjacent mucosa (H & E 10 X).



**Fig. (3):** Invasive Adenocarcinoma of gallbladder showing pleomorphic vesicular nuclei with prominent nucleoli and intraluminal necro inflammatory slough. (H & E 40x).

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**Fig. (4):** Tumor is reaching the non peritonealized surface (H & E 4 X).

### TUMOR BOARD DISCUSSION

The patient was advised for a contrast enhanced CT scan of abdomen on first OPD visit. The case was discussed in the multi-disciplinary Tumor Board Meeting at LNH.

As per discussion of the meeting she was advised for

- CT Chest to rule out metastatic involvement of the Lungs.
- PET scan to exclude distant metastasis.

As both scans were negative for peripheral involvement, she underwent completion cholecystectomy with resection of segment IV B and V including the gallbladder fossa and para aortic, retroperitoneal, celiac nodes and cystic duct on 14<sup>th</sup> June 2019.

The final histopathology of the specimen was negative for any malignancy. All resection margins were clear.

### OVERVIEW

#### General Surgeon's Perspective:

The overall outcome of carcinoma gallbladder remains poor. The 5 years rate of survival is less than 5%. However in early stage disease, a 5 years survival rate close to 75% can be achieved with stage adjusted treatment. The overall incidence of the disease is 3/100000 [1]. In Pakistan the incidence is 11.3/100000 [4].

Studies suggest that the mortality rates of carcinoma gallbladder are directly related to the overall incidence. Countries with the highest incidences have the highest mortality rates.

There is an inverse relationship between the rate of cholecystectomies performed and incidence of gallbladder carcinoma. Thus, countries with a higher rate of cholecystectomies performed each year have a lower rate of gallbladder carcinomas probably because the diseased gallbladders with risk factors are already removed before carcinoma develop [5].

Currently laparoscopic removal of gallbladder is performed in around 75% of cases [3, 5] of gall stone disease. In Germany more than 90% of gallbladders are removed laparoscopically.

However, there is much debate about the laparoscopic approach for carcinoma gallbladder. In cases of preoperative suspicion of malignancy, the laparoscopic approach is not recommended because of an increased risk of tumor perforation by grasping instruments, bile spillage, tumor seedling and port-site recurrences [6, 7]. Therefore, when gallbladder carcinoma is suspected preoperatively, an open technique of radical cholecystectomy is advised.

#### Medical Oncologist Perspective:

GBC can be found incidentally on histopathological assessment of cholecystectomy specimen or it can be found during cholecystectomy or sometimes suspected on preoperative imaging. In incidental GBC, found on routine cystectomy and limited to lamina propria (T1a) with negative margins, there is no further treatment required and has good prognosis [8, 9]. For incidental GBC with deeper invasion requires staging workup followed by an open surgery including hepatic resection, lymphadenectomy and bile duct excision leading to improved survival [10, 11].

Kim *et al.* [12] reported the role of adjuvant treatment in a series of 291 patients with GBC after (84.8%), and about one third of patients had lymph node (LN) metastasis. Only surgery was done in about two third patients while 21% received chemotherapy (CTx) and 15% patients received concurrent chemoradiotherapy (CCRT). On multivariate analysis, T3/T4 LN-metastasis, perineural invasion, lymphovascular invasion and R1 surgical margin status were predictors of poor overall survival (OS). On contrary those patients who received CTx or CCRT had an improved disease-free survival (DFS) (CTx, HR 0.61; CCRT, HR 0.43;  $P < 0.05$ ) and OS (CTx, HR 0.38; CCRT, HR 0.26;  $P < 0.001$ ) compared with surgery alone. Patients who derive an OS benefit from CTx/CCRT are those with high-risk features, including T3/T4 tumor (HR 0.41), lymph node metastasis (HR 0.45), and patients who underwent R1 resection (HR 0.21) (all  $P < 0.05$ ). The study concluded that CTx/CCRT were associated with improved long-term outcomes in high risk patient population.

In addition, in an analysis from the Surveillance, Epidemiology, End Results (SEER) database, Wang *et al.* [13] showed that adjuvant therapy provides a survival advantage in beyond T1 stage and lymph node involvement. Furthermore, CCRT had better results than CTx alone.

In patients with locoregionally advanced GBC (nodal disease or evidence of other high-risk disease), there is some data to suggest that neoadjuvant chemotherapy should be considered [14].

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