

# Abdominal wall nodule in a cholecystectomy scar

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## ABSTRACT:

Gallbladder carcinoma (GBC) is a rare pathology. We reviewed our hospital database for prognosticating the patients with post-cholecystectomy abdominal wall nodule. On reviewing the database we could find 7 patients who were diagnosed with GBC after a simple cholecystectomy. Three of those patients were diagnosed after evaluation of a scar site nodule. Two patients were females and one patient was male. The mean age of the patients was 55 years. Two patients underwent laparoscopic cholecystectomy and one patient underwent open cholecystectomy. The average time of detection of malignancy was 10.6 months. The gallbladder was not subjected to histopathological examination in all three patients. The patients had unresectable disease on restaging workup. Two patients had adenocarcinoma while one patient had neuroendocrine tumor. abdominal wall nodule is a rare marker of occult gallbladder carcinoma. Subjecting every gallbladder specimen to histopathology should help in improving the survival in these patients.

## KEYWORDS:

gallbladder cancer, abdominal wall nodule, port site metastasis

## INTRODUCTION

Gallbladder (GB) cancer is a rare gastrointestinal malignancy [1]. It is more common in the Indian subcontinent along the Indog-angetic belt [2]. This tumor has poor prognosis. The gallstones are widely prevalent in this belt and are neglected. The subtle symptoms of malignancy are often neglected as there is an overlap of sonographic features between benign and malignant gallbladder pathologies [3]. Laparoscopic cholecystectomy has emerged as a gold standard treatment for gallbladder diseases [4]. The risk of bile spillage and the chimney effect of the pneumoperitoneum may cause cancer dissemination [5]. The significance of post-operative biopsy is also overlooked in these areas. Many of the incidental cancers are detected at an advanced stage [1] due to the lack of postoperative histopathology. The presence of a nodule as an initial presentation of occult GB cancer has rarely been reported [6]. With this article the authors are signifying the presence of scar site metastasis as an initial presentation of primary GB cancer.

## MATERIAL AND METHODS

The database of Aiiims Rishikesh tertiary – level hospital in northern India was retrospectively reviewed.

## RESULTS

Out of the total 75 patients with biopsy-proven gallbladder carcinoma, 7 were detected after an initial cholecystectomy. Out of those seven patients, the abdominal nodule at the scar site was the initial presentation in three patients (Tab. I). Only two of the seven patients underwent a completion radical cholecystectomy.

Two (66.6%) of the three patients were females. The mean age of presentation was 55 years. All the patients had sonologically detected gallstones prior to cholecystectomy. The mean size of the gallstone was 1.8 cm on sonogram. Two patients underwent

laparoscopic cholecystectomy while a single patient had an open cholecystectomy scar (Fig. 1). The mean time of detection of gallbladder malignancy was 10.6 months. Two of those patients had metastatic disease at the time of restaging of the tumor. There were omental and mesenteric nodules in one patient. The other had a bulky disease with breach of diaphragm and pleura (Fig. 2). The male patient had adenocarcinoma located in the scar site, with no intra-abdominal disease. Positron emission imaging also confirmed the localised disease in this patient (Fig. 3). Histopathological examination of the resected gallbladder was lacking in all these patients. Fine-needle aspiration of the abdominal wall nodule showed adenocarcinoma in 2 patients while a single patient had a high-grade neuroendocrine tumor (Fig. 4). All those patients were offered chemotherapy. The patient with a localised abdominal nodule will be considered for resection of the diseased area after chemotherapy, restaging and PET scan.

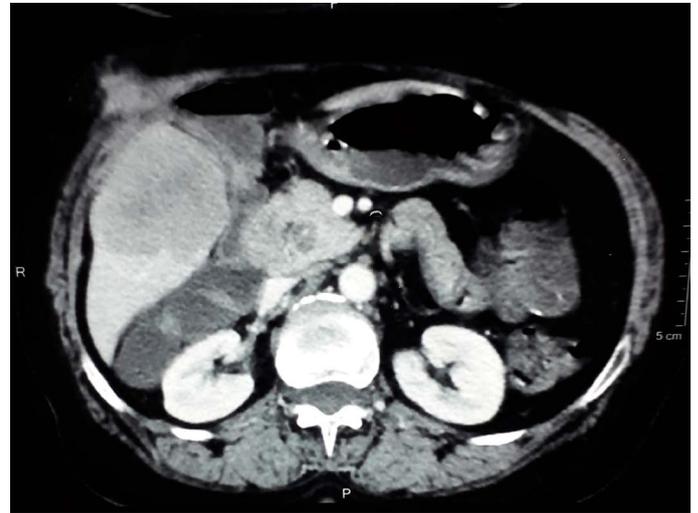
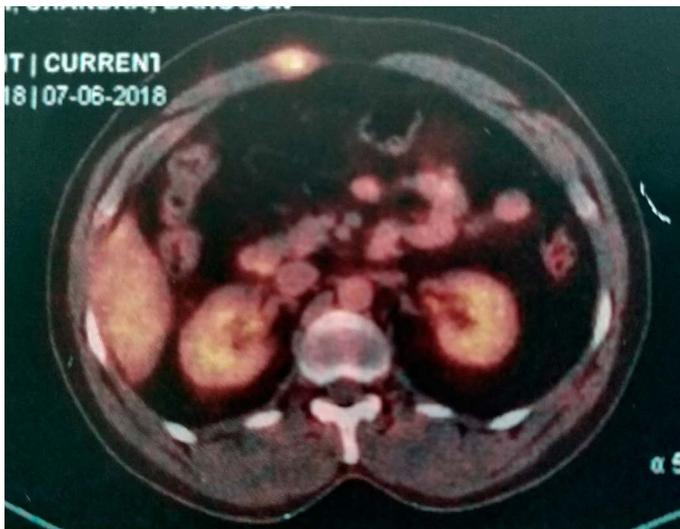
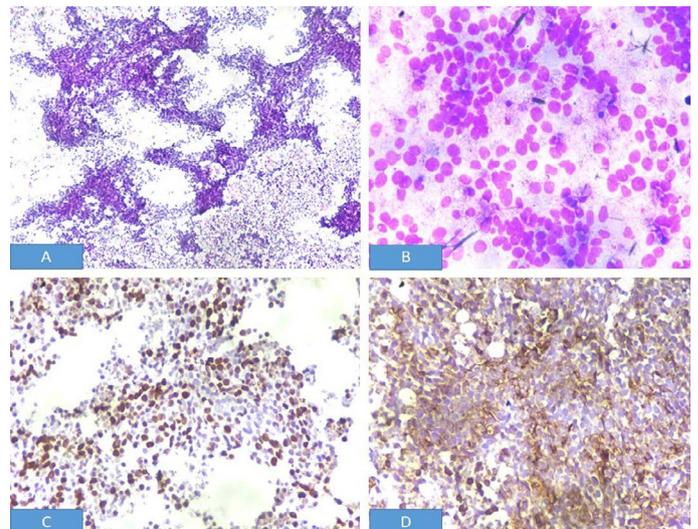
## DISCUSSION

The GB cancer is a pathology with high morbidity and mortality. It is a pathology of the biliary tract found endemically in the northern India and Japan [2]. These areas are also endemic for benign gallbladder pathologies [1, 2, 7]. These benign conditions are more common than the malignant ones. The varied presentation of benign pathology poses a diagnostic and therapeutic challenge for the treating surgeons [3]. Cholecystectomy has been the standard treatment for all these conditions. With the emergence of minimally invasive technology, laparoscopy has become the gold standard procedure in recent times [4].

The gallbladder diseases are more common in female patients, as seen in our study [2]. These patients are usually in their fifth and sixth decade of life. Most of the patients are in an advanced stage at presentation. The presence of jaundice and mass is a subtle marker of an advanced stage. Virchows node, ascites and blumer shelf are clinical markers of a metastatic disease [3]. The nodules of the abdominal wall usually carry a high risk of intraabdominal metastasis [8]. This was true in our study, as 66% of the subjects

**Tab. I.** Demographical and pathological characteristics of the patients.

AGE	SEX	STONE SIZE	DURATION SINCE CHOLECYSTECTOMY	TISSUE DIAGNOSIS	RETAGGING	INTERVENTION
70	Female	1.4 cm	8 months	Adenocarcinoma	Metastatic	Palliative
65	Female	3 cm	12 months	Neuroendocrine	Metastatic	Palliative
30	Male	1 cm	12 months	Adenocarcinoma	Localised	Chemotherapy

**Fig. 1.** A picture of a patient with an open cholecystectomy scar and a nodule.**Fig. 2.** A picture showing a tumor with an underlying mass and pleural breach.**Fig. 3.** A PET scan showing an avid nodule.**Fig. 4.** (A) Pap stain shows a highly cellular smear comprising papillary fragments as well as single dispersed cells which showed the typical salt-and-pepper chromatin pattern. (10x) (B) Giemsa stain shows dyscohesive single discrete cells showing scant cytoplasm, pleomorphic nucleus (40x). (C) Ki-67 labelling index is 60–70%. (D) Synaptophysin shows strong membranous staining.

had disseminated disease on restaging. The presence of abdominal wall nodule in an unsuspected gallbladder carcinoma is a rare entity. Only 43 such cases had been reported till 2002 [6].

The nodular port site recurrences are reported after a median of 4–10 months [9]. The same holds true in our study as the mean time of detection of carcinoma in the nodule was 10.6 months. The slow growth of the tumor cells with a decreased number of entrapped cells and local immunological factors might lead to this slow growth of the tumor nodule. The advent of laparoscopic surgery has led to an increased risk of bile spillage [10]. Bile spillage with pneumoperitoneum-induced chimney effect predisposes to port site nodule formation [11]. The extraction of the gallbladder without a retrieval bag is also a proposed mechanism for cell entrapment. These nodules usually present late and are often misdiagnosed as a stitch granuloma or an abscess secondary to stones

[12]. Fine-needle aspiration or tissue diagnosis help establish the diagnosis. Histopathological examination (HPE) of the resected specimen was lacking in all these patients. The histopathological examination might have helped in picking up an early cancer and improve the survival in these patients. This practice is common in underdeveloped countries due to the lack of uniform surgical practice and standard protocols. The histopathological examination of the resected specimen is indispensable in developing countries. This is in contradiction to certain studies where selective administration of histopathological tests is recommended [13]. A thickened GB wall, nodularity or suspicious malignant nodules should be subjected to HPE [14]. This strategy might not be useful in India, as most of the practitioners, even in endemic areas, are unaware of

the subtle findings of GB malignancy. Incidental malignancy when detected should undergo restaging and completion surgery as described in literature. The T1a tumor does not require any further treatment while radical cholecystectomy is mandatory in T1b and above tumors [1]. The resection of the port site has been advised as a part of surgery for T1b and above tumors [15]. The surgery of isolated port site nodules in the absence of intraabdominal disease is debatable. The excision of the nodule along with laparotomy for intraperitoneal evaluation forms the treatment strategy [5]. But the long-term survival data in GB cancer are lacking as the dis-

ease itself carries a grave prognosis. However, a median survival of 1 year is reported in literature.

## CONCLUSION

The retrieval of gallbladder specimen should be done in an endoscopic bag. The spillage of bile and stones should be prevented during surgery. The histopathological examination of the resected specimen is still indispensable in the developing countries.

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