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Gastroenterology

ADENOCARCINOMA GALL BLADDER MASQUERADING AS COLONIC MALIGNANCY

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ABSTRACT Gall bladder carcinoma is well known for its asymptomatic onset most commonly diagnosed in the post operative biopsy following a cholecystectomy. Early diagnosis is the key for a better prognosis and the most important denominator in the surgical management that determines the outcome is to achieve a microscopic negative resection margin.

In clinical practice almost all cases present at an advanced stage (locally / metastatic) as the disease is asymptomatic in the early course. Locally advanced cases may involve the adjacent organs like the liver, bile duct, duodenum and colon which warrant multi organ resection to achieve microscopic negative resection margin.

Colonic involvement though reported in carcinoma gall bladder, a proliferative intra luminal growth with anemia is extremely rare totally masquerading as a primary colonic malignancy. In such scenario when the anatomical origin of tumor is doubtful, immunohistochemical technique plays a pivotal role to arrive at the diagnosis. Gall bladder carcinoma has dismal prognosis, radical surgery might offer survival benefits for early stages.

We report a case of atypical presentation of gall bladder carcinoma, the diagnostic challenges and the role of immunohistochemistry to arrive at the diagnosis.

KEYWORDS : immunohistochemistry, gall bladder carcinoma, locally advanced.

INTRODUCTION

Gallbladder cancer is an aggressive malignancy which lacks early symptoms, most often picked up on the histopathological analysis of cholecystectomy specimen for gall stones or incidental ultrasound screening.

Though it was considered rare, there are enough evidence that the incidence is been comparable to other GI malignancies (third common GI malignancy (1,2). It is more common in South America, Asian countries like some areas of Northern India, Pakistan, Japan, and South Korea[3] with male to female ratio of 1 :4 [4,5].

Gall bladder carcinoma is notorious for varied presentation. Most commonly asymptomatic, but can present with vague GI symptoms. Staging of gall bladder cancer plays a vital role in the 5 yrs survival outcome. Although it has a dismal prognosis, radical surgery might offer survival benefits in early stages (6).

CASE REPORT

A 36 yrs old female presented with upper abdominal pain and melena for the past 2 months. She was pale on examination there was a firm mass palpable in the right hypochondrium. CT showed evidence of a small enhancing mass lesion of the fundus of gall bladder and adjacent hepatic flexure of colon with evidence of air pocket within the mass, small superficial adherence seen to the segment 5 of liver, duodenum is uninvolved, no intrahepatic biliary radical dilatation. Imaging wise it was difficult to dogmatically commit the anatomical origin of the mass. However the epicenter of the mass was more in relation to the colon.

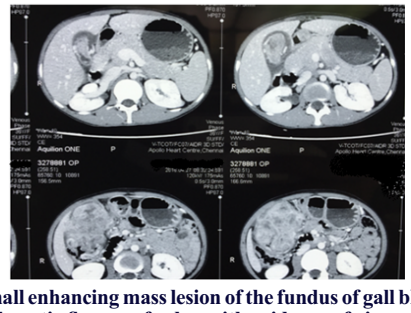

Fig 1 : Small enhancing mass lesion of the fundus of gall bladder and adjacent hepatic flexure of colon with evidence of air pocket within the mass, Superficial adherence seen to the segment 5 of liver

CA 19.9 was 459.9 (normal <37) was grossly elevated, patient was further evaluated with an upper gastrointestinal endoscopy which showed erythematous gastritis and a colonoscopy revealing a large proliferative growth involving the hepatic flexure obstructing the lumen which was biopsied.

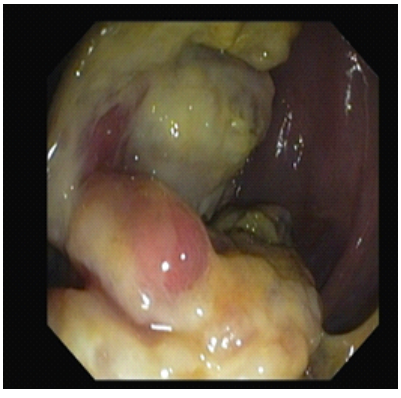

Fig 2 : A large proliferative growth involving the hepatic flexure obstructing the lumen

The biopsy showed a high grade dysplasia and a repeat deeper biopsy was suggested to rule out invasive carcinoma. The clinical presentation and colonoscopic features were classical for a colonic malignancy and hence it was decided to manage as a locally advanced hepatic flexure growth infiltrating the gall bladder.

On exploring there was a bulky growth in the hepatic flexure infiltrating the adjacent mesocolon and fundus of gall bladder. Tumour was tethered to the glissonian capsule of liver. Intra operatively we were convinced that it was a colonic malignancy infiltrating the gall bladder. We performed an en bloc extended right hemicolectomy with cholecystectomy. The cut open specimen was convincing for a colonic mass infiltrating the gall bladder, the mucosa of the gall bladder did not have any mass or ulcer but for mild irregularity.

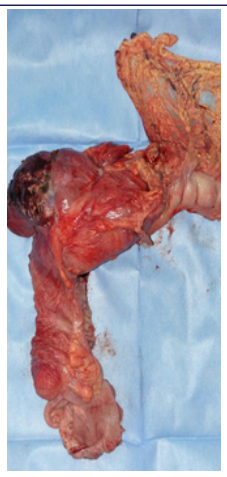

Fig 3: Extended right hemicolectomy with cholecystectomy

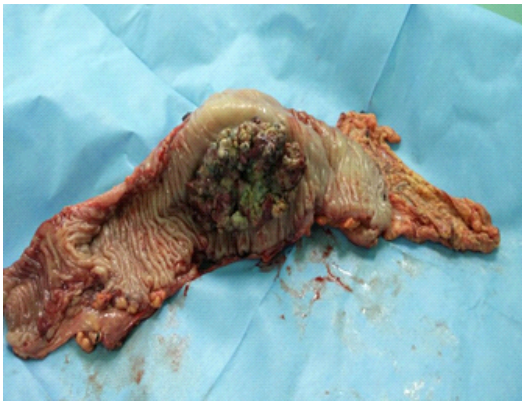

Fig 4: CUT OPEN SPECIMEN SHOWING BULKY COLONIC GROWTH

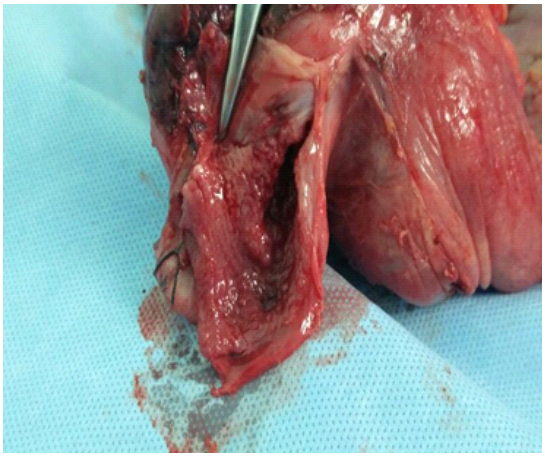

Fig 5 : CUT OPEN GALL BLADDER PORTION SHOWING MUCOSAL IRREGULARITY

Histopathology

On gross examination there was an exophytic, polypoidal infiltrative lesion in the hepatic flexure measuring 9 X 8 X 5 cms. Hepatic flexure was adherent to the adjacent gall bladder. Gall bladder also showed friable lesion in the fundus and body. Microscopically there was adenocarcinoma in both gall bladder and colon showing same morphology with intense desmoplastic reaction. The gall bladder mucosa also showed high grade dysplasia but adjacent colonic mucosa did not show any dysplasia or any other lesion. To confirm the site of origin immunohistochemistry panel was done. The tumour cells were positive for CK 7, CD X2 and focally positive for CK 20, confirming the diagnosis of primary gall bladder carcinoma stage T3(pT3) tumor perforating the serosa, directly invading the colon and presenting as ulceroproliferative lesion of colon.

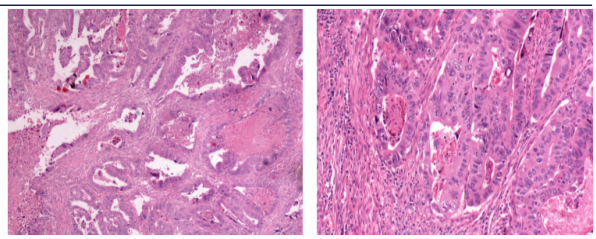

Fig 6 :H&E SECTIONS SHOWING ADENOCARCINOMA WITH SURROUNDING DESMOPLASTIC REACTION

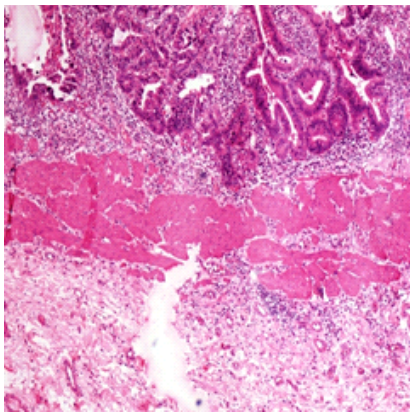

Fig 7: ADJACENT GALL BLADDER MUCOSA SHOWING HIGH GRADE DYSPLASIA

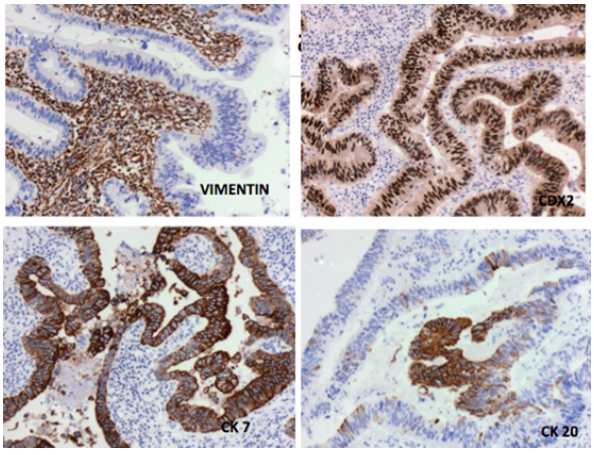

Fig 8 :IMMUNOHISTOCHEMISTRY STRONGLY POSITIVE FOR VIMENTIN,CDX2,CK7AND FOCALLY POSITIVE FOR Ck20

IHC SHOWING POSITIVITY FOR VIMENTING CONFIRMING THE PRESERVATION OF ANTIGENICITY. THE TUMOUR CELLS ARE POSITIVE FOR CK7, CDX2 & FOCALLY FOR Ck20.

To our great surprise the IHC panel revealed this to be a gall bladder malignancy as it was positive for CK 7, CDX2 and focally positive for CK 20. It was decided to go for completion radical cholecystectomy and clearance of hepatoduodenal nodes, but the patient did not give consent.

DISCUSSION

Gall bladder adenocarcinomas are known for being asymptomatic in the early stages which invariably brings the patient when in advanced stages. The most common presentation is incidental pick in a post operative cholecystectomy specimen. As per our literature search, the atypical presentations of gall bladder adenocarcinomas are quite common. We present for the atypical presentation, the difficulties encountered to diagnose and the importance of immunohisto-chemistry.

Invasion of adjacent structures like the liver, colon, bile ducts, stomach are reported. Here the difficulty was presentation of the patient with

severe anemia and melena which is pointing towards colonic primary. CT shows a gall bladder irregular thickening infiltrating into the hepatic flexure of colon. Colonoscopy revealed a proliferative mass in the region of hepatic flexure, biopsy showed features of high grade dysplasia. The intra operative findings were consistent with colonic primary infiltrating the gall bladder.

In such circumstances, the initial colonoscopic biopsy should have been subjected to IHC. This could have possibly clinched the diagnosis to aid further treatment, because colonic carcinomas are negative for CK7 while gall bladder carcinomas are positive for CK7. The features of desmoplasia, positivity of CK7,CK20 and CDX2 are more in favor for gall bladder primary.

CONCLUSION:

We are presenting this case for an atypical presentation of gall bladder carcinoma as an ulceroproliferative colonic lesion and the role of immunohistochemistry in arriving at the correct diagnosis.

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