



PURE SQUAMOUS CELL CARCINOMA OF THE GALL BLADDER – A RARE CASE REPORT

Pathology

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ABSTRACT

Pure squamous cell carcinoma of the gallbladder, without any component of adenocarcinoma, is rare and constitutes only about 1% of all malignancies of this organ. We report a case of a 45-year-old female who presented with pain in the right hypochondrium. Histopathological examination of the resected gallbladder specimen revealed keratinizing squamous cell carcinoma. Thorough evaluation revealed no adenocarcinoma component. Pure primary squamous cell carcinoma of the gallbladder is rarely encountered, clinicians and pathologists must be aware of this entity to aid in early diagnosis and better patient management.

KEYWORDS

carcinoma, gall bladder, liver, squamous cell carcinoma

INTRODUCTION:

Carcinoma of the gall bladder is an uncommon malignancy, accounting for 2-4% of all gastrointestinal malignancies. It is the fifth most common malignancy of the gastrointestinal tract.¹ Majority of these malignancies are adenocarcinomas, with pure squamous cell carcinomas (SCC) accounting for only around 1% of these cases. We present a case of SCC of the gall bladder with liver metastasis.

CASE REPORT:

A 45-year-old female patient presented with pain in the abdomen for four months. The pain was dull aching in nature and present in the right hypochondrium. She also had on and off episodes of low-grade fever for the past one month. She was moderately built and nourished, and had pallor. There were no specific findings on per abdominal examination. Laboratory investigations were within normal limits. A computed tomography (CT) scan was performed, which showed a heterogeneously enhancing mass present inside and almost replacing the entire gall bladder with infiltration into the adjacent liver parenchyma (Figure 1).



Figure 1 - CT scan image showing a heterogeneously enhancing mass present inside and almost replacing the entire gall bladder with infiltration into the adjacent liver parenchyma

A radical cholecystectomy was performed. The resected gall bladder, part of liver bed, falciform ligament and periportal lymph nodes were submitted for histopathological examination. Microscopic examination revealed presence of moderately differentiated squamous cell carcinoma of the gall bladder (Figure 2). The tumour was seen extending up to the serosa and also involving the liver (Figure 3). Marked pleomorphism was noted along with presence of atypical mitoses, bizarre tumour cells and tumour giant cells. Perineural invasion was also identified, but lymphovascular invasion was not present. No adenocarcinoma component was identified, even after extensive sampling of the tumour. The falciform ligament and periportal lymph nodes were not involved.

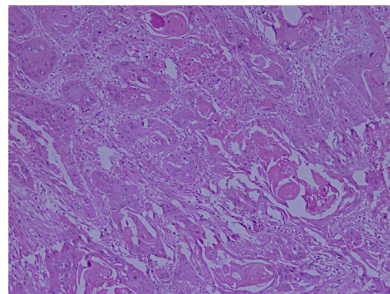


Figure 2 – Photomicrograph showing tumour cells arranged in nests with areas of keratinization (100x)

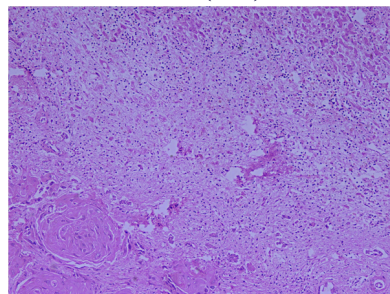


Figure 3 – Photomicrograph showing liver metastasis. Hepatocytes are visible in the upper right side and tumour tissue is seen in the lower left side of the image (100x)

A final diagnosis of moderately differentiated squamous cell carcinoma of the gall bladder with liver metastasis was offered after histopathological examination.

DISCUSSION:

The incidence of carcinoma of the gall bladder is comparatively higher in India and Japan, along with few South American countries.² It has a gender predilection for women, with a female-to-male ratio of 3-4:1 and is usually seen in patients of age 50 years and above.¹

Adenocarcinomas are the most common histological type of gall bladder malignancies, constituting more than 90% of the cases. Although, areas of squamous differentiation are seen in adenocarcinomas, the occurrence of pure SCCs without evidence of malignant glandular transformation, is very rare. Due to lack of consensus regarding the inclusion criteria for SCC of the gall bladder, incidence rates of 1-12% have been reported.³

SCC of the gall bladder is asymptomatic at early stages and follows an ill-defined clinical course, being frequently detected at an advanced stage. The presence of weight loss and anorexia in an elderly patient presenting with signs of biliary colic or chronic cholecystitis should alert the clinician to this differential diagnosis.

The biological behaviour is characterized by rapid growth, early metastasis, and tendency to infiltrate adjacent structures. Although peritoneal seeding is not very common, metastasis to the liver are more often seen than adenocarcinomas.⁴

The reason for its rapid growth and aggressive nature can be attributed to the fast doubling time (81 days), which is almost half as compared to adenocarcinomas (166 days).⁵

The histogenesis of SCC of gall bladder has not been well understood, however few theories have been proposed. It may arise from the basal layer of the lining epithelium.⁴ The most plausible theory is that it is a result of a multistep process due to sequential genetic alteration at various stages. A pre-existing adenocarcinoma may undergo squamous metaplasia, resulting in adenosquamous carcinoma wherein the metastatic carcinoma grows more rapidly and replaces the malignant glandular component.¹ Another theory states that metaplasia-dysplasia-carcinoma sequence is followed, substantiated by the presence of atypical epithelial change adjacent to the invasive tumour in some cases.⁶

Abdominal USG or CT scan can be used as imaging modalities for biliary diseases. However, the findings may overlap with those of cholecystitis. These include thickening of the wall of gall bladder, which may be diffuse or focal, or an intraluminal mass.⁷

Cytology of bile samples has been evaluated as a diagnostic modality for carcinoma of the gall bladder. The sensitivity of this test is limited due to sample degeneration.⁸ USG guided fine needle aspiration is a potential minimally invasive diagnostic tool, with relatively high sensitivity and specificity.⁹

Most of the SCCs of the gall bladder have common pathological features. Most of them present as thickening and hardening of the wall of gall bladder, and exhibit prominent keratinization on microscopic examination. Giant cells and tumour-infiltrating eosinophils are present in more cases as compared to adenocarcinomas. Usually, the pathological staging at the time of resection is pT2 or above, indicating advanced disease at diagnosis.¹⁰

The mean survival time for carcinomas of gall bladder with squamous component, either occurring as part of adenosquamous carcinomas or as pure SCCs, is significantly less than that for adenocarcinomas.⁷ Significant prognostic factors are residual tumour status, type of surgical resection performed, age of the patient at diagnosis, and vascular invasion.⁴

The mainstay of treatment for SCC of the gall bladder is radical resection via open laparotomy. This includes cholecystectomy, limited segmental resection (IVb/V) of the liver, with removal of regional lymph nodes. Postoperative chemotherapy and radiotherapy are usually required.⁴

CONCLUSION:

Pure SCC is a rare type of gall bladder malignancy, with many of the cases not being diagnosed preoperatively. The overall prognosis is poor, with radical resection being the mainstay of treatment. Newer diagnostic modalities are needed for early diagnosis of these malignancies, which in turn will lead to better prognosis and improved patient survival.

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