



Case report

Squamous cell carcinoma of the gallbladder masquerading liver abscess with review of literature[☆]Suvendu Sekhar Jena^{a,*}, Dibyasingh Meher^b^a Department of Surgical Gastroenterology and Liver Transplantation, Sir Ganga Ram Hospital, New Delhi 110060, India^b Department of General Surgery, VMMC & Safdarjung Hospital, New Delhi 110029, India

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ABSTRACT

Introduction and importance: Squamous cell carcinoma of the gall bladder is a rare but aggressive tumor. It has a wide variety of presentations. Presentation as a liver abscess is a rare condition only 2 cases reported in the literature before.

Case report: A 45-year-old male patient presented to the emergency with complaints of fever, right upper quadrant pain, and jaundice. On evaluation, an initial diagnosis of the liver abscess was made. Due to the deteriorating condition of the patient, he was taken up for surgery. Upon exploration, there were multiple deposits over the bilateral lobes of the liver, so a controlled drainage of abscess cavity was done with biopsy from the wall of the gall bladder and liver metastasis was taken which showed squamous cell carcinoma of gall bladder with liver metastasis. The patient was given gemcitabine and oxaliplatin as palliative chemotherapy. He died after 11 months of presentation.

Discussion and conclusion: The aggressive and advanced nature of the disease at the presentation poses a formidable challenge in managing such patients but early diagnosis and surgical management can provide long term benefits.

1. Introduction

Gall bladder carcinoma is an aggressive cancer and is the most common cancer of the biliary tract [1]. It has a wide geographical variation with the highest incidence in North India, Pakistan, Chile. Adenocarcinoma is the most common subtype accounting for 90–95% of cases of gall bladder cancer and squamous cell carcinoma (SCC) in 1–12% of cases. But, the incidence of pure SCC drops down to 0–3.3% when the adenosquamous carcinoma is excluded [2].

Patients are usually asymptomatic or have vague presenting symptoms like anorexia, abdominal pain, nausea, and vomiting and in case of advanced disease, there will be weight loss, obstructive jaundice, ascites, palpable abdominal mass, and hepatomegaly [3]. Rarely, SCC may present as liver abscess probably due to direct involvement of liver parenchyma and associated necrosis [4]. To the best of our knowledge, this is the third case of pure SCC of gall bladder presenting as liver abscess reported in the literature.

Here we present a case report of a 45-year-old patient with a liver abscess which turns out to be squamous cell carcinoma from the gall bladder.

The work has been reported in the line of SCARE criteria [5].

2. Case report

A 45-year-old male patient, without any co-morbidity, presented with complaints of pain in the right upper abdomen, fever, and jaundice for 1 month. There was no history of malignancy in the family. On examination, there was tenderness over the right hypochondrium with a vague, ill-defined mass. The rest of the systemic examination revealed no abnormalities. Patient has an eastern co-operative oncological group score of 1. There is no history of alcohol intake or smoking. On evaluation, the white cell count was 25,000/cumm with neutrophil predominance (92%). The liver function test showed an obstructive pattern (Total bilirubin – 8.3 mg/dl, direct bilirubin – 8 mg/dl). X-ray of the

Abbreviations: SCC, Squamous cell carcinoma; POD, Post operative day.

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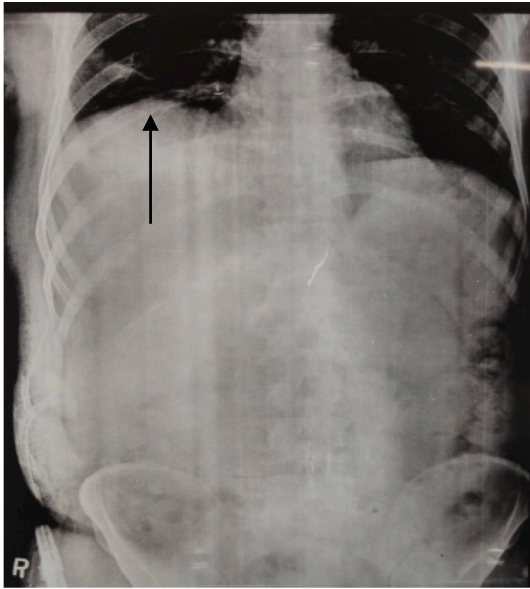


Fig. 1. X ray abdomen showing raised right hemidiaphragm (black arrow).

abdomen showed raised right hemidiaphragm (Fig. 1). Ultrasound abdomen showed a hypoechoic collection with moving internal echoes in the right lobe of the liver with multiple echogenic calculi and debris in it with. The gall bladder could not be visualized separately. There was moderate intrahepatic biliary radicle dilatation. An initial diagnosis of liver abscess was made and percutaneous drainage of around 400 ml of frank pus was done.

He was started on intravenous antibiotics as per culture and sensitivity and other supportive measures. The cytology from the drainage fluid showed few atypical cells. To rule out malignancy, contrast-enhanced computed tomography of the abdomen was done which revealed a large collection of size 6 × 7.5 cm in the right lobe of the liver with loss of interface between the posterior wall of gall bladder and liver parenchyma with multiple stones and debris inside the collection with moderate dilatation of radicles with multiple abscesses in the bilateral lobe (Fig. 2).

Because of the continuously increasing toxemia and deteriorating condition of the patient, he was taken up for surgery. On exploration via a right subcostal incision, there was a well-defined collection involving the right lobe of the liver and gall bladder with multiple metastatic deposits in the bilateral lobe of the liver (Fig. 3). The collection involved the transverse colon. In view of the metastatic disease, a controlled

drainage of the abscess cavity was done after taking a biopsy from the metastatic deposit and the gall bladder wall.

The postoperative period was uneventful. The drain was removed on a postoperative day 11 after the output was reduced to 5 ml. He was discharged on postoperative 15. The laboratory parameters were compared from on the admission to discharge in Table 1. The histopathology report showed moderately differentiated squamous cell carcinoma arising from the gall bladder with metastasis in the liver (Fig. 4). He was given palliative chemotherapy in the form of 6 cycles of gemcitabine and oxaliplatin after discussion with multidisciplinary committee but unfortunately, the patient died after 11 months of diagnosis due to pulmonary metastasis.

3. Discussion

The pure SCCs of the gall bladder is rare, consequently the unavailability of any prospective clinical trials in the literature. All the available information is based on individual case reports or case series. The reported incidence has a wide range of 1–12% owing to the inclusion of adenosquamous carcinoma or mucoepidermoid carcinoma and secondary SCC from other sites or misdiagnosis as SCC [6]. The incidence of pure SCCs is 1–3% with female preponderance (3:1). The age of presentation is earlier (4th–6th decade) than adenocarcinoma [4]. In our case, the patient was younger and in the 5th decade.

As there is no squamous epithelium in the gall bladder, the source of origin is debatable. Different hypothesis has been put forward for the development of SCC: 1) Malignant transformation of heterotopic squamous epithelium, 2) Malignant transformation of metaplastic squamous epithelium and 3) Squamous metaplasia of adenocarcinoma [7].

Gall stones appear to play a major, probably due to chronic irritation, role as evidenced by the fact that approximately 90% of SCCs invariably have associated cholelithiasis [8]. It is mostly associated with cholesterol stones as shown by Cariati et al. [9] The high incidence in countries like India could be explained by the association with parasitic infections [10]. The other risk factors are adenoma, porcelain gall bladder, cholecystoenteric fistula, ulcerative colitis, anomalous biliopancreatic junction. Decreased expression of 23 nm and overexpression of c-erb B2 gene products have also been identified [8].

They have a varied mode of presentation like abdominal pain, dyspeptic symptoms, fever, mass formation, jaundice, and liver abscess [11,12]. Most of them present at an advanced stage as the lesion grows rapidly and metastasizes early [4]. Metastatic spread is usually to the liver and the paraaortic lymph nodes and rarely to sites like bone, spine, ovary, spine, and breast. The modes of dissemination can be direct, lymphatic, vascular, neural, intraperitoneal, and intraductal [12].

A definitive diagnosis is by histopathological examination. The

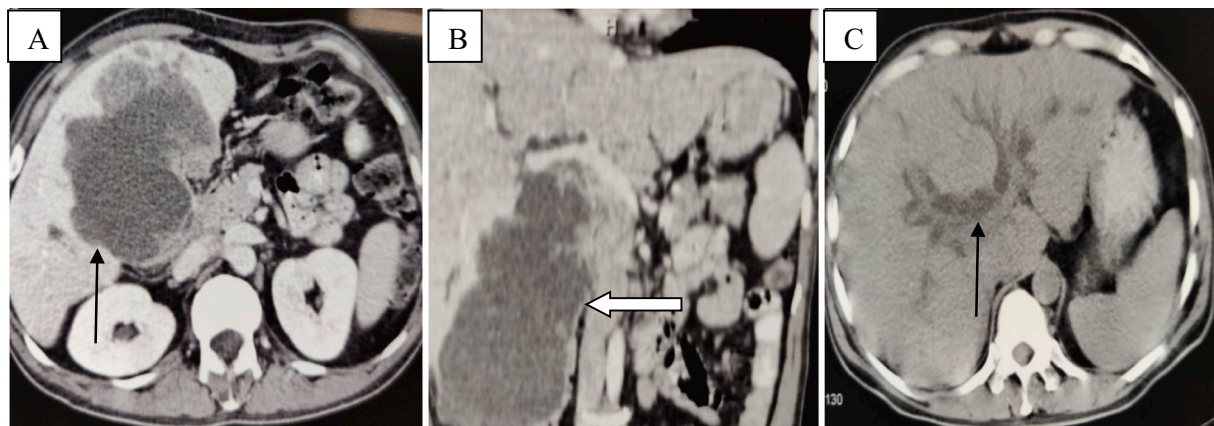


Fig. 2. (A) Sagittal section of CT abdomen showing picture of liver abscess (Block white arrow) with a suspicious abscess (simple black arrow). (B) Coronal section showing liver abscess replacing GB (Block white arrow). (C) CT abdomen showing dilated intrahepatic biliary tree (black arrow).

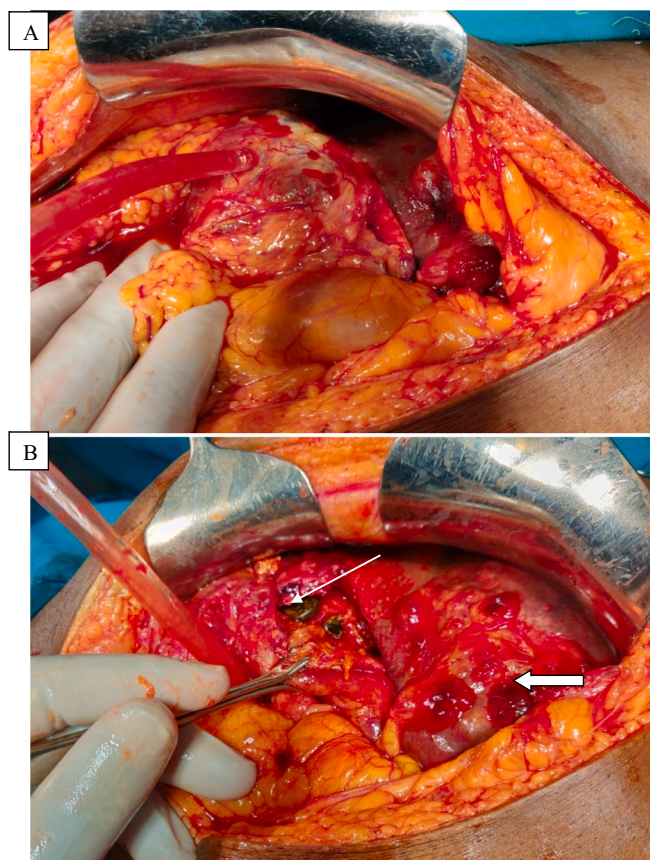


Fig. 3. (A) Well defined abscess arising from the liver in the region of gall bladder fossa (plastic suction Tip). (B) Upon, opening the cavity (wall held by metal instrument – part of the wall), there are multiple stones inside it (white arrow). Metastatic deposits can be seen over the left lobe of liver (black white arrow).

typical presentation is of a gall bladder mass with nonspecific signs and symptoms mimicking acute cholecystitis. Ultrasound abdomen is the initial radiological method of choice which typically shows features of acute cholecystitis in early cases. Cytology of bile samples may show atypical cells but have limited sensitivity due to sample degeneration. Ultrasound-guided fine-needle biopsy of the lesion is a minimally invasive and promising tool but with a risk of needle tract seeding. Rapid On-Site Evaluation (ROSE) allows early detection and may be part of the first-line test to confirm the diagnosis [13]. However, a contrast-enhanced CT scan is still the best modality in terms of diagnosis,

tumor extension, local invasion, and presence of distant metastasis [14].

Radical surgery is the mainstay of treatment in patients with locally invasive SCC as shown by Oohashi et al. in their study of 28 patients where they have found residual tumor status as an only important factor affecting survival. However, high local invasiveness and advanced stage of presentation preclude R0 resection [15]. There is no consensus regarding lymphadenectomy owing to the low tendency of lymphatic metastasis, but should be offered [11]. The role of adjuvant therapy is also discouraging. Horgan et al. reported non-significant benefits of adjuvant therapy but on separate analysis, chemoradiotherapy was found to be better than radiotherapy alone and the benefit was higher in node-positive and R1 resection [16]. The 5-year survival of SCC is around 1% owing to high proliferation index, low doubling time (81 vs 166 days of adenocarcinoma), and late diagnosis [8,17]. In our case, the patient presented with a liver abscess but unfortunately due to the metastatic nature of the disease only palliative treatment could be offered.

4. Conclusion

SCC of the gall bladder is a rare entity and to be presented as liver abscess makes this case report more a unique one. The diagnosis is established by radiological investigations and confirmed with histopathological examination. The vague and delayed presentation makes curative resection difficult. Early diagnosis is the key to management. The role of adjuvant therapy is still unclear.

Ethical approval

Ethical committee approval was not needed as per the regulations of the local committee.

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CRediT authorship contribution statement

SSJ- Data collection and analysis, writing full article, Final approval. DSM- Study conceptualization and designing.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this

Table 1

Laboratory parameters compared throughout the stay in hospital (POD - Post operative day, SGOT – Serum Glutamic Oxaloacetic Transaminase, SGPT – Serum Glutamic Pyruvate Transaminase).

Labs	At presentation	After abscess drainage	POD1	POD 2	Discharge
Hemoglobin (gm/dL)	14.6	14.2	14	13.4	13.6
Total leucocyte count (/cumm)	25,000	16,789	18,452	11,463	7580
Platelet counts (/ul)	154,000	150,000	156,000	152,000	154,000
Urea (mg/dL)	80	36.2	34.5	26.9	26.4
Creatinine (mg/dL)	1.9	1.1	0.86	0.80	0.72
Sodium (mmol/L)	139	140	141	140	139
Potassium (mmol/L)	3.5	3.7	3.96	4.1	4.2
Total bilirubin (mg/dL)	8.3	4.4	3.4	2.7	1.1
Direct bilirubin (mg/dL)	8.0	3.6	1.2	1.9	0.6
SGOT (IU/L)	15	20	14	19	24
SGPT (IU/L)	9	8	8	5	12
Alkaline phosphatase (IU/L)	245	201	160	153	148
Gamma glutamyl traspeptidase (IU/L)	126	114	82	71	60
Total protein (gm/dL)	4.97	5.21	5.34	5.5	5.61
Albumin (gm/dL)	2.08	2.10	2.25	2.35	2.5

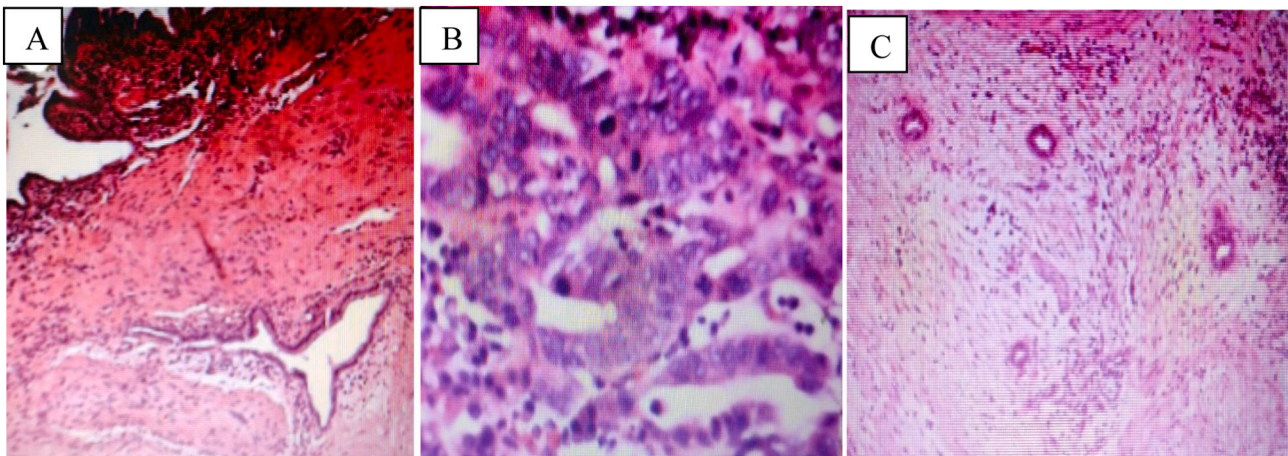


Fig. 4. (A, B, C): Histopathological images showing squamous cell carcinoma with keratin pearls. H & E, $\times 200$.

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Research registration

NA.

Guarantor

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Provenance and peer review

Not commissioned, externally peer-reviewed.

Data availability statement

No datasets were generated or analyzed during the production of case report.

Declaration of competing interest

None.

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