

Case Study

PRIMARY SQUAMOUS CELL CARCINOMA OF GALL BLADDER – A CASE REPORT

Abstract

A 51-year-old male patient presented with pain in right hypochondrium since 2 months, associated with weight loss and fever. CECT abdomen revealed gall bladder with wall thickening which was asymmetric and heterogenous at junction of body. A provisional diagnosis of cholecystitis with element of cholangitis was considered. Open radical cholecystectomy was done. Microscopic and immunohistochemical findings established the diagnosis of moderately differentiated squamous cell carcinoma of the gallbladder. Adjuvant chemotherapy regimen consisting of paclitaxel and carboplatin was given in the present case. Six months after treatment completion, patient is on regular follow up and disease free on clinical and radiological examination.

Keywords

Cholecystitis, gallbladder, squamous cell carcinoma

Introduction

Gallbladder carcinomas are uncommon malignancies, being the fifth most common cancer of the digestive tract. It accounts for only 2% to 4% of all gastrointestinal malignancies. The vast majority of masses found in the gallbladder are pathologically diagnosed as adenocarcinoma. Squamous cell carcinoma (SCC) being even rare, constitute only 0–12.7% of gallbladder tumours.

We report a single case of SCC of gallbladder that was clinically diagnosed as cholecystitis with element of cholangitis.

27 Case Report

28 A 51-year-old male presented with complaints of intermittent pain in
29 right hypochondrium and weight loss for 2 months. It was associated with fever.
30 Patient was known case of diabetic and on regular medication.

31 Physical examination revealed the presence of tenderness in right
32 hypochondrium. No organomegaly was observed. Pulse rate and Blood Pressure
33 were normal. Routine blood tests such as Complete Blood Picture, Blood Urea
34 Nitrogen and serum creatinine were within normal limits. Liver Function Tests
35 showed elevated SGOT, SGPT & alkaline phosphatase levels with normal
36 serum bilirubin level.

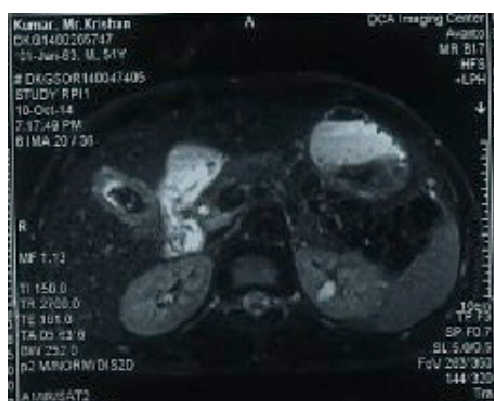
37 MRI upper abdomen with MRCP revealed gallbladder wall thickening,
38 sludge and calculus, and no obvious biliary ductal dilatation or filling defects
39 (figure 1). CECT Abdomen revealed pathological gall bladder with wall
40 thickening which was asymmetric and heterogenous at the junction of body
41 (figure 2). Mild pericholecystic fat stranding and biliary ductal wall thickening
42 was also noted. On this basis, a clinical diagnosis of cholecystitis with element
43 of cholangitis was considered, and underwent open radical cholecystectomy
44 with standard lymphadenectomy. Operative findings were including hard mass
45 in fundus and body of gallbladder invading into liver. There were no obvious
46 deposits in liver, peritoneum and omentum. There were enlarged
47 pericholedochal, periportal and hepatic artery nodes.

48 Macroscopic findings: polypoidal growth measuring 2x2 cm, infiltrating
49 the muscle layer but underlying liver was free of tumor grossly. Multiple bits
50 were given from representative areas and routinely processed. Histopathologic
51 evaluation revealed moderately differentiated squamous cell carcinoma of
52 gallbladder with area of poor differentiation infiltrating the entire thickness of
53 the wall. Nineteen lymph nodes were identified and all were free of tumors.
54 Immunohistochemical stain (HMWCK) was equivocal. (Figures 3 & 4)

55 Postoperative period was uneventful.

56 Then the patient was planned for adjuvant chemotherapy with Paclitaxel
57 and carboplatin intravenously three weekly for six cycles. Six months after
58 treatment completion patient is on regular follow up and disease free on clinical
59 and radiological examination.

60



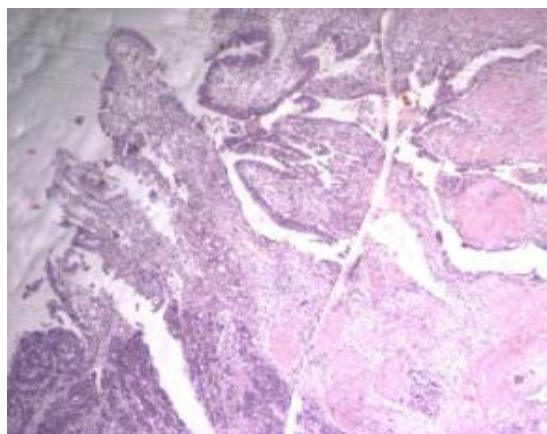
61

62 Figure (1) MRI Scan of Abdomen (Transverse view) showing gall bladder with
63 wall thickening.



64

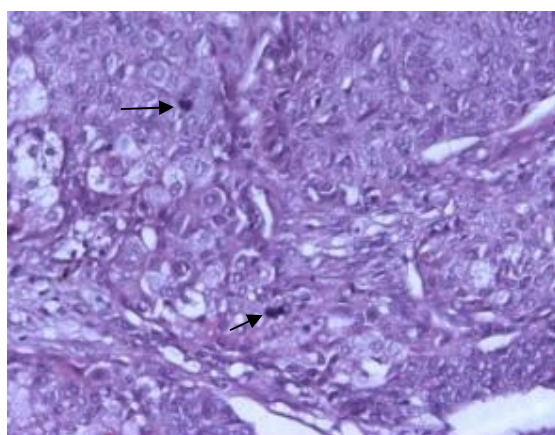
65 Figure (2) CT Scan of Abdomen (transverse view) showing gall bladder with
66 asymmetric wall thickening.



67

68 Figure (3) Photomicrograph show gall bladder wall with infiltration by
69 carcinoma. (H&E, 100X).

70



71

72 Figure (4) Photomicrograph (high power view) show tumour cells with mitosis
73 (arrow). (H&E, 200X).

74

75 Discussion

76 Squamous cell carcinoma (SCC) of the gallbladder is a rare and
77 aggressive form of gallbladder cancer. Patients who develop SCC of the
78 gallbladder have a poorer long-term prognosis than patients presenting with
79 adenocarcinoma of the gallbladder ^[1-2]. Adenocarcinoma of the gallbladder is

80 the most common type of gallbladder cancer with a 3:1 female to male pre-
81 dominance. Gallbladder cancer commonly presents between the 4th and 6th
82 decades of life ^[2].

83 Gallbladder cancers are asymptomatic at early stages. When
84 symptomatic, the presentation is similar to biliary colic or chronic cholecystitis
85 ^[5]. Biological behaviour of SCC is characterized by rapid growth, early
86 metastatic dissemination and diffusely local and regional infiltration. Despite
87 local and regional infiltration of SCC of gallbladder, peritoneal seeding is rare.
88 Hepatic metastases are more frequent in SCC than adenocarcinoma of the
89 gallbladder ^[2]. The duplication time for SCC is half that of adenocarcinoma.
90 SCC growth is faster than that of adenocarcinoma and is therefore more
91 aggressive. The prognosis is therefore worse than adenocarcinoma ^[1-2].

92 Up to 12.7% of gallbladder cancers are SCC but these estimates include
93 heterogenous neoplasms such as adenosquamous carcinomas and some
94 misdiagnoses as mentioned by Roppongi *et al.* ^[4] According to Surveillance,
95 Epidemiology, and End Results (SEER) Program of the National Cancer
96 Institute, out of 3038 patients with gallbladder cancer only 45 (1.7%) were SCC
97 ^[2,5].

98 Embryologically the gallbladder originates from the foregut ^[6]. Therefore,
99 most gallbladder carcinomas are heterogeneous during neoplastic
100 transformation. As a result, pure SCC of the gallbladder is a rare entity. SCC of
101 the gallbladder is thought to arise from the basal cell layer of the epithelium. It
102 is also hypothesized that it can arise from the squamous metaplasia or squamous
103 differentiation of a preexisting adenocarcinoma. Others believe SCC originates
104 from squamous differentiation of the adenocarcinoma via expression of mixed
105 phenotypes within a single tumor ^[2].

106 Radical resection is the mainstay of treatment for patients with locally
107 invasive SCC and offers the only chance for cure. The extent of tumor invasion
108 at the time of diagnosis is the most important parameter in determining survival.

Death occurs within 6 months of diagnosis without radical surgery ^[1-2]. Laparoscopy should not be done if gallbladder cancer is suspected ^[7]. Postoperative radiotherapy and chemotherapy may be used however results are inconsistent ^[3].

In a Japanese study of 28 adenosquamous carcinomas and only 1 SCC of the gallbladder, Oohashi *et al.* reported that radical resection had a significantly better prognosis than primary resection. A 5- year survival of 49% was reported with radical resection compared to a 3-year survival of 8% with primary tumor resection alone. Residual tumor status was the only significant independent prognostic factor. Patients with no residual tumor had a 5-year survival of 63% compared to patients who with residual tumor whose 5-year survival was nil ^[8].

Conclusion

SCC of gallbladder is a rare malignancy. Main treatment modality is surgery. Even though chemotherapy and radiation therapy has been used in the adjuvant setting, it doesn't provide additional benefits. Careful radiological examination may help to decrease the mortality associated with this disease enabling early detection at an earlier stage.

Reference

1. Roa JC, Tapia O, Cakir A, et al. Squamous Cell and Adenosquamous Carcinomas of the Gallbladder: Clinicopathological Analysis of 34 Cases Identified in 606 Carcinomas. *Mod Pathol.* 2011;24(8):1069-78.
2. Waisberg J, Bromberg SH, Franco MI, *et al.* Squamous Cell Carcinoma of the Gallbladder. *Sao Paulo Med J.* 2001;119(1):43.

- 134 3. D'Angelica M, Jarnagin W, "Tumors of the Gall-bladder," In B. L.
135 Saunders, Ed., *Surgery of the Liver, Biliary Tract, and Pancreas*, 4th
136 Edition, Elsevier, Amsterdam, 2006, pp. 764-781.
- 137 4. Roppongi T, Takeyoshi I, Ohwada S, *et al.* Minute Squamous Cell
138 Carcinoma of the Gallbladder: A Case Report. *Jpn J Clin Oncol.*
139 2000;30(1):43-5.
- 140 5. Henson DE, Albores-Saavedra J, Corle D. Carcinoma of the Gallbladder.
141 Histologic Types, Stage of Disease, Grade, and Survival Rates. *Cancer.*
142 1992;70(6):1493-97.
- 143 6. K. Moore, "The Developing Human," W.B. Saunders Company,
144 Philadelphia, 1982.
- 145 7. Memon MA, Anwar S, Shiwani MH, *et al.* Gallbladder Carcinoma: A
146 Retrospective Analysis of Twenty-Two Years Experience of a Single
147 Teaching Hospital. *Int Semin Surg Oncol.* 2005;2(1):6.
- 148 8. Oohashi Y, Shirai Y, Wakai T, *et al.* Adenosquamous Carcinoma of the
149 Gallbladder Warrants Resection Only If Curative Resection Is Feasible.
150 *Cancer.* 2002;94(11):3000-05.