ISSN: 2754-8880
Published 00 11 0000

Challenging Management Of Pure Squamous Cell Carcinoma Of Gallbladder With Liver Metastasis: A Case Report

N Tilawatu[1*], N Ezmas[2], and F Ahmad[3]

[1]Department of Surgery, Hospital Sultanah Nur Zahirah, Jalan Sultan Mahmud, 2400 Kuala Terengganu, Terengganu.
[2]Department of Surgery, Sultan Ahmad Shah Medical Centre @IIUM, Jalan Sultan Haji Ahmad Shah, Bandar Indera Mahkota, 25200 Kuantan, Pahang.
[3]Department of Pathology, Hospital Sultanah Nur Zahirah, Jalan Sultan Mahmud, 2400 Kuala Terengganu, Terengganu.
[*]Corresponding author: Noor Tilawatu Kamaruddin. Department of Surgery, Hospital Sultanah Nur Zahirah, Jalan Sultan Mahmud, 20400 Kuala Terengganu, Terengganu, Malaysia E-mail address: noor_tilawatu@yahoo.com.

ORIGINAL

Abstract

Pure squamous cell carcinoma of the gallbladder is a rare form of gallbladder carcinoma. The presentation is either by accidental finding or with advanced symptoms. This case reported a 69-year-old man with a history of gallstone pancreatitis who presented with recurrent acute cholecystitis, failed antibiotic treatment, and was treated with open cholecystectomy. Intraoperatively gallbladder was embedded in the liver bed with fundal perforation and multiple liver nodules. Subsequently, we proceed with R2 resection due to the macerated fundal wall of the gallbladder. Histopathological examination showed a squamous cell carcinoma of the gallbladder with liver bed invasion. In view of poor ECOG status, the adjuvant treatment was abandoned. The main aim for this case report is to discuss regarding the best treatment for this patient, as limited data is available to treat this condition.

Introduction

Squamous cell carcinoma of the gallbladder (SCC of GB) is the rarest type of gallbladder (GB) carcinoma, which is reported as about 3% of GB carcinoma. The survival rates of pure SCC of the gallbladder are significantly lower compared to those of adenocarcinoma of the gallbladder. Most of the cases presented with advanced symptoms and were associated with cholelithiasis or cholecystitis symptoms. No specific treatment is achieved for SCC of the GB due to its uncommon presentation. Meanwhile, further radiotherapy and chemotherapy have limited data regarding the rate of success of the treatment.

Case presentation

A 69-year-old man with known case of cholelithiasis had a history of admission to the surgical ward 6 months prior to the current presentation and was treated as acute severe gallstone pancreatitis. Ultrasound hepatobiliary system (HBS) at that time revealed a suspicious intraductal lesion within the distal common bile duct (CBD), causing proximal suspicion of cholangiocarcinoma. Proceeded with CT HBS, reported as cholelithiasis with chronic cystic changes with prominent CBD likely secondary to passing out stone; however, no evidence of cholangiocarcinoma. Blood investigation

OPEN ACCESS
Edited by
A.Hussain

Submitted *27 Nov. 2025*

Accepted *12 Dec. 2025*

Citation
N Tilawatu,N Ezmas,F Ahmad.Challenging Management Of Pure Squamous Cell Carcinoma Of Gallbladder With Liver Metastasis: A Case Report, Editorial article:BJOSS::2026:(6);179-182

at that time showed slightly high levels of total bilirubin with high ALP. The tumor marker taken was normal. He was counsel for the operation at that time; however, not yet keen.

He presented again to the emergency department of Hospital Sultanah Nur Zahirah with on-and-off fever with epigastric pain for 1 month. Clinical examination revealed jaundice with significant tenderness over the right hypochondriac region. Blood investigation showed leukocytosis with significantly high alkaline phosphatase (ALP) and slightly high total bilirubin. Ultrasound hepatobiliary system (HBS) revealed multiple liver nodules with no prominent duct dilatation and cholelithiasis, with no evidence of biliary obstruction. He was counselled for an open cholecystectomy in view of persistent unsettling fever with leukocytosis despite antibiotic treatment. Intraoperatively, multiple liver nodules were noted over the bilateral lobes with adhesion of the transverse colon and duodenum to the fundus of the gallbladder. The fundus of the gallbladder is embedded within the liver, and noted perforation within the liver. The cavity was left open in view of the macerated gallbladder. On gross pathology, a tumor at the fundus measuring 5x2x3cm. The tumor invaded the muscular layer into the adjacent liver; however cystic duct was not involved. The pathology report diagnosed it as at least pT3NxMx with squamous cell carcinoma of the gallbladder, moderately differentiated with metastasis to omentum and liver. He was discharged home well after two weeks and was seen back in the surgical clinic a week later. After discussion, considering his health status, the best choice for him is palliative as the cancer has already spread to the liver.

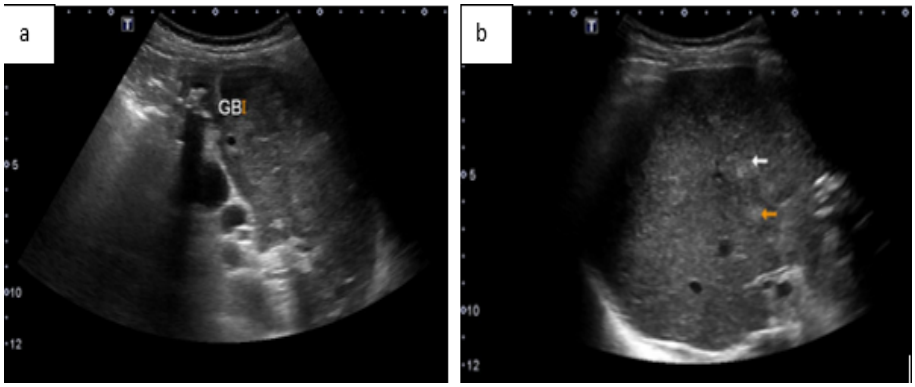

Figure 1. (**a**) Preoperative ultrasound HBS showed distended gallbladder wall with multiple stone within. No pericholecystic collection or thickened wall seen and (**b**) liver with coarse architecture with scattered multiple nodules. No intrahepatic duct dilatation seen.

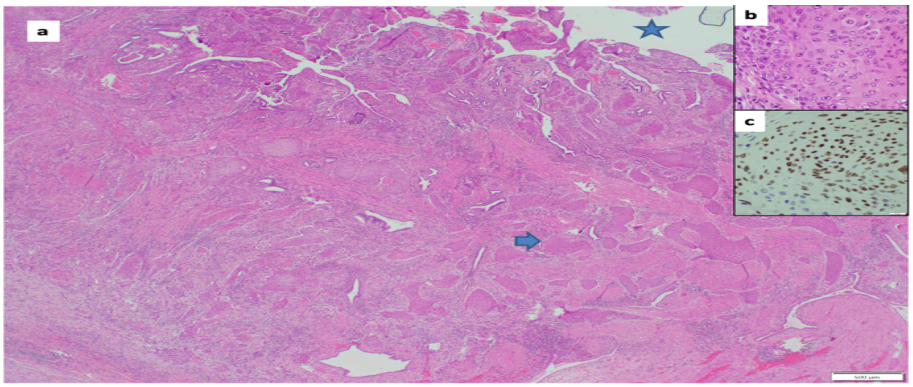

Figure 2. (**a**) Squamous cell carcinoma involving the gallbladder wall splaying muscularis mucosae (arrow) (H&E x20). (**b**) Islands of atypical squamous cells (H&E x400). (**c**) P40 positivity.

Discussion

Gallbladder carcinoma is a typical malignancy of the biliary tract, accounting 80%-95% of biliary malignancies (1). They are further subdivided into primary gallbladder squamous cell carcinoma (adenosquamous/squamous), papillary, and adenocarcinoma (2). SCC of GB is a very rare case among those type making up 2-3% of all GB carcinoma cases. Diagnosing SCC of GB is much more challenging due to limited resources regarding pure SCC of GB (3).

In this case, identified risk factors leading to SCC of GB are advance age and medical history of high cholesterol level and recurrent cholecystitis (1). According to Andrea C et. al. in the March issue of The Lancet Oncology, there are several risk factors that are known as a contributor for GB carcinoma, specifically towards SCC of GB. Three major risk factors are a history of long-standing gallstones, a high cholesterol level, and a history of recurrent cholecystitis. Other risk factors that contribute to GB carcinoma are pancreatobiliary reflux, pancreatobiliary malfunction, and GB adenoma (4).

Some of the SCC of GB are diagnosed at an early stage as an accidental finding via imaging. However, most of the cases are diagnosed at a late stage with hepatobiliary manifestation symptoms (1; 5). Most of the cases showed no significant elevation of the tumor marker. According to several study and case report, surgery is still the basic treatment for SCC of GB. Ayabe RI et. al. reported that, compared to other GB carcinomas, patients with SCC of GB are more likely to receive multimodal therapy with additional chemotherapy or chemotherapy with radiotherapy. R0 resection is proven to be associated with increased survival of the disease. Compared to adenocarcinoma of the gallbladder, patients with primary SCC of the gallbladder need more adjacent organ resection for a comparable rate of R0 (1). A case of a pure SCC of GB with liver mass underwent complete resection of the tumor, had complete recovery after the operation, and was planned for referral to an oncologist for chemotherapy and radiotherapy (6). Common surgeries done are simple cholecystectomy, radical cholecystectomy, and debulking surgery; however, SCC of GB had a higher rate of positive margin despite surgery done (1). According to Leigh N et. al., histologically, tumors of primary SCC of GB were larger at diagnosis and more advanced, with higher rates of liver invasion and higher TNM staging (5). This case also had invasion into the liver and omentum, which contributes to at least pT3NxM1. Another case reported a similar case of SCC of GB with liver and transverse colon invasion, which was treated conservatively due to an unresectable tumor and poor health status (7; 8).

Due to the rarity diagnosis of pure SCC of GB, resource of treatment are also limited. Horgan et. al. conclude no significant benefit of adjuvant therapy in overall survival; however, when interpreted separately, treatment with chemoradiotherapy was found to be better than radiotherapy alone, especially for node positive and R1 resection (8).

Conclusion

Pure SCC of GB is an uncommon and has a poor outcome compared to other types of gallbladder carcinoma. Early diagnosis and complete resection of the tumor provide a good outcome and overall survival. Current treatment has limited resources to prove a good outcome in advance of diagnosis. More study is needed for a better understanding of the disease and which treatment is best for the patient.

Conflict of Interest

All authors declare no conflict interest of any kind.

References

[1] Ayabe RI, Wach MM, Ruff SM, Diggs LP, Martin SP, Wiemken T, et al. Gallbladder squamous cell carcinoma: An analysis of 1084 cases from the National Cancer Database. Journal of Surgical Oncology. 2020;122(4):636-42.

[2] Samuel S, Mukherjee S, Ammannagari N, Pokuri VK, Kuvshinoff B, Groman A, et al. Clinicopathological characteristics and outcomes of rare histologic subtypes of gallbladder cancer over two decades: A population-based study. PLoS One. 2018;13(6):e0198809.

[3] Zhu C, Sun L, Wei Y, Xu D, Zhou Y. Characteristics and survival prognosis of patients with pure squamous cell carcinoma of the gallbladder. ANZ Journal of Surgery. 2021;91(3):E91-7.

[4] Andrea C, Francesco C. Squamous-cell and non-squamous-cell carcinomas of the gallbladder have different risk factors. Lancet Oncology. 2003;4(7):393-4.

[5] Leigh N, Solomon D, Pletcher E, Sullivan B, Sarpel U, Labow DM, et al. Adenosquamous and squamous cell carcinoma of the gallbladder: The importance of histology in surgical management. American Journal of Surgery. 2020;220(5):1242-8.

[6] Perisetti A, Raghavapuram S, Tharian B, Warraich I, Hardwicke F, Rahman R, et al. Pure squamous cell carcinoma of the gallbladder masquerading as a hepatic mass. Cureus. 2018;10(1):e2011.

[7] Willson CM, Barsoum N, Khan MTA, Rushton J. Primary squamous cell carcinoma of gallbladder with hepatic invasion. Cureus. 2023;15(3):e35795.

[8] Mghirbi F, Ayadi M, Karray W, Yahyaoui Y, Meddeb K, Mokrani A, et al. Squamous cell carcinoma of the gallbladder. Translational Gastroenterology and Hepatology. 2016;1:78.