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En bloc total biliary resection hepatectomy for the treatment of gallbladder adenosquamous carcinoma: a case report

Hepatectomia total com ressecção biliar em bloco para tratamento de carcinoma adenoescamoso de vesícula biliar: um relato de caso

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ABSTRACT

Introduction: Gallbladder cancer is a rare type of biliary tract malignancy with poorly defined pathogenesis, difficult treatment and often inoperable. **Case Report:** A 84-year-old male presented with pain in the right hypochondrium with three months of progressive worsening. Ultrasound routine examination showed the presence of a large mass in the gallbladder adjacent topography that also showed signs of invasion in the liver tissue. He was submitted to preoperative staging with chest and abdomen MRI with intravenous contrast. A resection of the IVB, V and VI hepatic segments was performed associated to complete resection of the extra hepatic bile duct en bloc. Main bile duct reconstruction with Y-Roux jejunostomy was also performed. **Discussion:** Gallbladder carcinoma with squamous component is a rare type of cancer with poor prognosis whose treatment with a curative potential is only possible with surgery, in case the lesion is resectable.

Headings: Gallbladder neoplasms; Gallbladder diseases; Hepatectomy.

RESUMO

Introdução: O câncer da vesícula biliar é um tipo raro de malignidade do trato biliar com patogênese mal definida, tratamento difícil e muitas vezes inoperável. **Relato de Caso:** Um homem de 84 anos apresentou-se com dor em hipocôndrio direito com três meses de piora progressiva. O exame ultrassonográfico de rotina mostrou a presença de uma grande massa na topografia adjacente à vesícula biliar que também apresentava sinais de invasão no tecido hepático. Foi submetido ao estadiamento pré-operatório com RM de tórax e abdome com contraste endovenoso. Foi realizada ressecção dos segmentos hepáticos IVB, V e VI associada à ressecção completa do ducto biliar extrahepático em bloco. Também foi realizada a reconstrução do ducto biliar principal com jejunostomia em Y-Roux. **Discussão:** O carcinoma com componente escamoso da vesícula biliar é um tipo de câncer raro e de mau prognóstico, cujo tratamento com potencial curativo só é possível com cirurgia, caso a lesão seja ressecável.

Descritores: Neoplasias da vesícula biliar; Doenças da vesícula biliar; Hepatectomia.

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INTRODUCTION

Gallbladder cancer is a type of biliary tract malignancy with poorly defined pathogenesis, being 2-6 times more prevalent in the female sex in the age group above the fifties.[1] This rare type of cancer presents a large variability of incidence over the world, for example, in Chile the incidence is 17.8/100,000 inhabitants, while in the US the incidence is 1.43/100,000 inhabitants, and this data indicates that population external and genetic factors are important to the incidence of this cancer.[1-4]

Gallbladder adenocarcinoma is the most common histological variant with 90%-95% of incidence. Gallbladder squamous, epidermoid or adenosquamous carcinoma and leiomyosarcoma are considered more unusual, being more found in the literature as case reports.[5,6] The lack of symptomatology in this type of lesion precludes early diagnosis even though new radiology methods can favor examination findings.[7,8]

The prognosis of gallbladder squamous and adenosquamous carcinoma are related to the invasion of adjacent structures and to the technical difficulty of resectability in advanced cases. The effective treatment for patients starting with T1b staging is surgical resection given its low responsiveness to chemotherapy.[9,10]

Therefore, the aim of this work is to report a case of gallbladder adenosquamous carcinoma treated with en bloc total biliary resection hepatectomy. This case report was submitted and approved by our local ethics committee.

CASE REPORT

A 84-year-old male patient was admitted at the oncology services of Regional Cancer Hospital of Presidente Prudente due to pain in the right hypochondrium with three months of progressive worsening associated with nausea, loss of appetite and weight loss of approximately 8kg in the last months. Ultrasound routine examination showed the presence of a large mass in the gallbladder adjacent topography that also showed signs of invasion in the liver tissue associated with extrinsic compression of the extra hepatic bile duct.

On physical examination, he presented slightly emaciated, anicteric, with a palpable mass 2cm from the right costal margin. Laboratory tests showed no increase in the bilirubin levels with a total level of 0.9mg/dl and CA19-9 level <37U/ml. He was then classified as ECOG2 and submitted to preoperative staging with chest and abdomen MRI (Figure 1) with intravenous contrast that showed a perivascular mass invasion to the IVB and V hepatic segments and compression of the hepatic hilum. No lymphadenomegaly and distant metastatic disease was evidenced.

The case was then discussed by the digestive oncological surgery department and the patient underwent surgery confirming the mass in the gallbladder and the compromised liver tissue (Figure 2). A resection of the IVB, V and VI hepatic segments associated to complete resection en bloc of the extrahepatic bile duct since it presented signs of tumor infiltration. Perihilar chains, celiac trunk, peripancreatic and inter-cavo-aortic lymphadenectomy was also performed. Subsequently to the surgical resection, main bile duct reconstruction with Y-Roux jejunostomy was also performed, requiring an anastomosis to the right hepatic duct and one to the left hepatic duct separately. The procedure was carried out with 250ml of blood loss, approximately, without the need of blood transfusion or use of vasoactive drugs. The total surgical time was of 5 hours.

The anatomopathological report confirmed a rare gallbladder adenosquamous carcinoma with T3N0M1 staging with R0 final resection, slightly differentiated with presence of perineural, angiolymphatic, serous and hepatic segment infiltration (Figures 3, 4 and 5) as well as metastasis in 1 of 2 periportal lymph nodes.

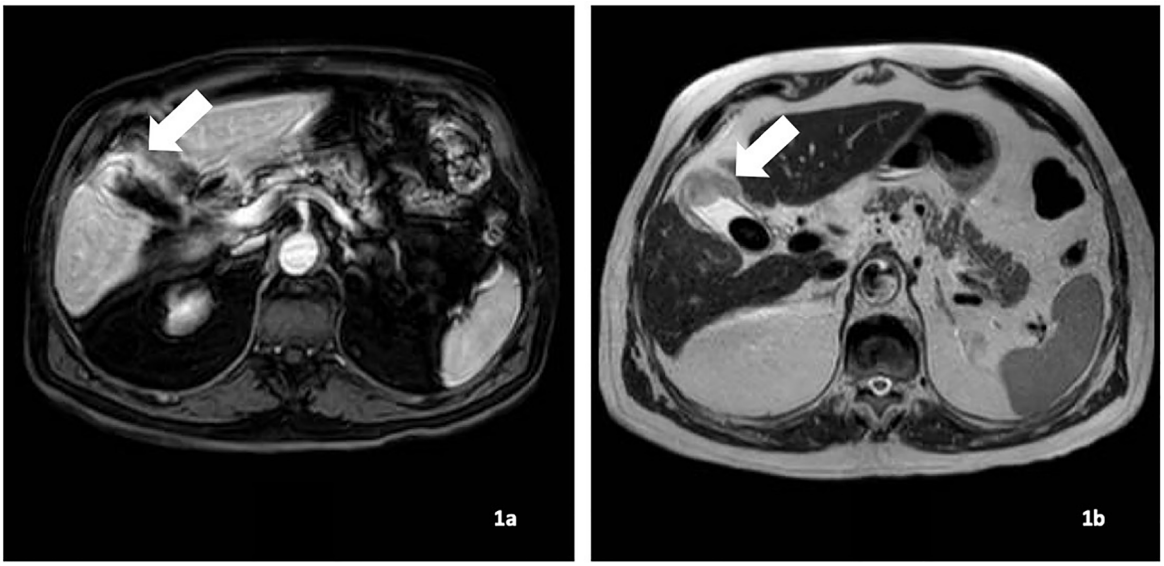

Figure 1. Presence of a mass in the gallbladder funicular region topography (narrows) measuring 3.5cm in the largest axis with diffusion restriction associated to gallbladder distension due to a probable lymph node compression in the hepatic hilum. There is no suggestion of liver metastasis or inter-cavo-aortic lymphadenomegaly.

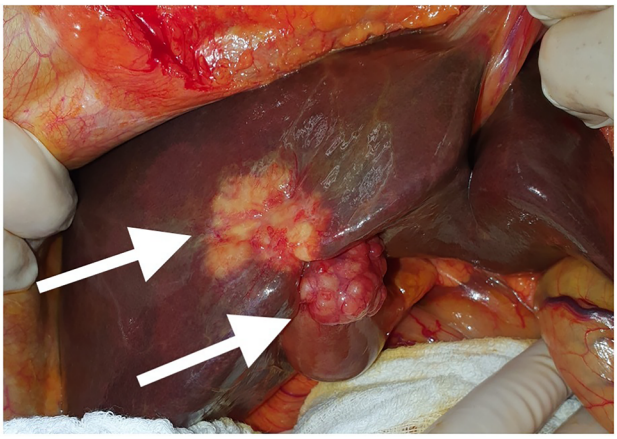

Figure 2. Gallbladder and liver mass on intraoperative findings.

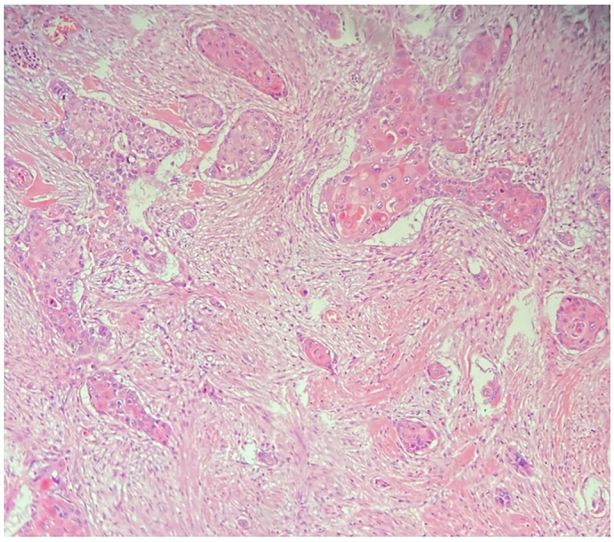

Figure 3. 100x magnification, hematoxylin-eosin stain histology: neoplasm showing infiltrates that form epidermoid cell blocks with keratinization foci and intense stromal desmoplastic reaction.

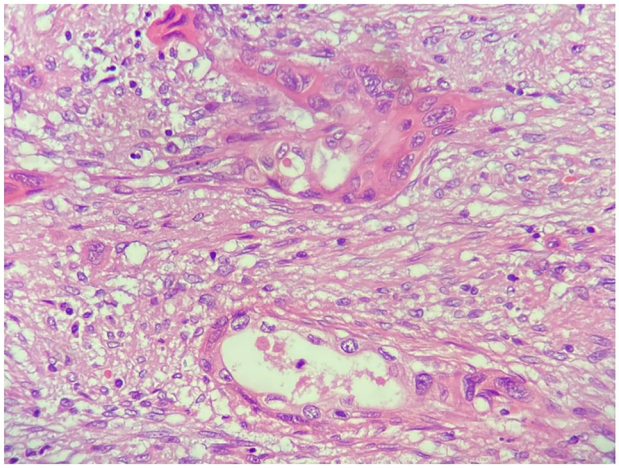

Figure 4. 400x magnification, hematoxylin-eosin stain histology: neoplasm block with glanduliform arrangement next to the epidermoid neoplasm focus.

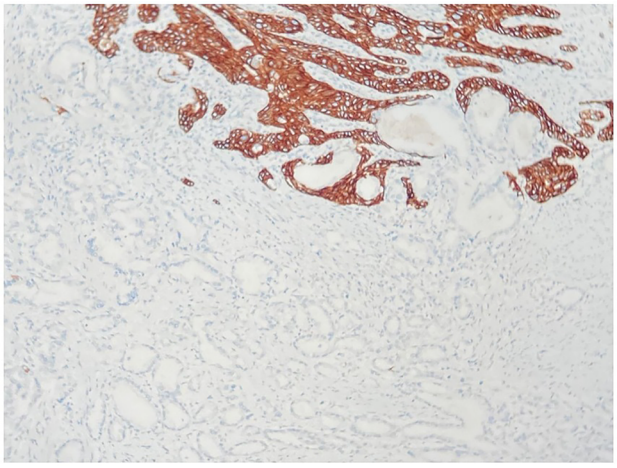

Figure 5. Ck5/6 immunohistochemistry: intense membrane and histoplasmic marking on the epidermoid component, negativity on the glandular component.

The patient was discharged on 8th postoperative day with no sign of biliary fistulas. He received neo-adjuvant treatment with eight cycles of capecitabine and progressed well.

DISCUSSION

Squamous and adenosquamous carcinomas are rare malignancies that represent about 3% of all gallbladder neoplasms and their silent nature difficult early diagnosis. Some factors can predispose to these types of cancers such as chronic inflammation of the gallbladder, female sex, porcelain gallbladder, gallbladder adenomatous polyposis, mutation in some genes such as TP53, HER-2 and CDKN2A or CDKN2B, infection by *Salmonella typhi*, and anatomical variants at the choledochal duct junction to the pancreatic duct, *pancreas division*.[11,12]

Patients with gallbladder squamous cell carcinoma present themselves to the specialists with large, bulky tumors, often invading adjacent organs and noble structures such as hepatic hilum vessels, which characterize the case as inoperable.[13] It has been noticed that these tumors proliferate at a higher rate than those of glandular component. However, these tumors present less lymph node metastases than the autological type. Therefore, it has been concluded that his aggressive behavior is due to the rapid invasion of adjacent organs such as liver, duodenum, transverse colon and stomach, and not to angiolymphatic dissemination.[1]

Radiographic findings such as intraluminal tumor mass, diffuse thickening of the gallbladder wall, intrahepatic bile duct dilation, and irregular adjacent lesions juxtaposed to the gallbladder fossa may suggest a gallbladder tumor. About laboratory findings, a study with 411 patients showed that there was not statistical significative difference between the group of patients that present abnormal or elevated levels of CA19-9 and the presence of gallbladder squamous or adenosquamous carcinoma.

Therefore, CA19-19 should not be used as a marker for these tumors' diagnosis, even though a large number of patients showed levels above 37 U/ml of this marker.[14]

As for the cancer pathology, a certain variation in its microscopy can be found. In a study with 121 patients with gallbladder squamous cell carcinoma 34.4% of them had highly differentiated cancer cells. In addition, 61% of the analyzed samples presented keratinization in the cancerous area with typical keratinocytes of varying sizes, as well as eosinophilic cytoplasm.[15]

Surgical resection is still the more effective and definitive treatment for the cure of this pathology, associated with greater patient survival.[16] In the diagnostic suspicion, after clinical and imaging evaluation, the lesion must be resected with free margins and, if necessary, the removal of adjacent organs and lymph nodes must be performed to achieve a R0 resection. From staging T2, extended cholecystectomy, including lymph node dissection and hepatic resection is recommended.[17-19] This approach increases the chance of cure and survival for the patient, since this histological variant of gallbladder cancer presents great limitation of systemic chemotherapy.

Although curative treatment for gallbladder cancer can only be achieved with surgical resection, a study showed that individuals with advanced or metastatic tumors can have longer overall survival with gemcitabine in combination with cisplatin for adjuvant treatments.[20] However, established adjuvant treatments for gallbladder carcinoma are lacking and more studies must be performed to show how adjuvant treatments affects survival for this type of cancer.[21]

In conclusion, we report a case of a rare gallbladder adenosquamous carcinoma that was managed with en bloc total biliary resection hepatectomy. The case report and the data in the literature indicate that this type of cancer is a rare condition associated with poor prognosis, difficulties for surgical resection and systemic chemotherapy treatment.

CONFLICT OF INTEREST

There is no conflict of interest.

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