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Perihilar Cholangiocarcinoma: Case Report and Surgical Approach

Perihilar cholangiocarcinoma: case report and surgical approach

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Abstract

Cholangiocarcinoma is a rare and aggressive malignant neoplasm originating from the epithelium of the bile ducts, and can affect areas from the intrahepatic ducts to the distal portion of the biliary tract.
This condition is often diagnosed late due to its nonspecific clinical presentation. We report the case of a 59-year-old female patient who presented with epigastric and right hypochondrium pain for approximately one year, associated with postprandial nausea and vomiting, without jaundice or weight loss. Laboratory tests showed a slight elevation of bilirubin, with tumor markers within normal limits. Computed tomography and magnetic resonance cholangiopancreatography demonstrated an infiltrative lesion in the fourth hepatic segment, with intraductal extension to the hepatic hilum, classified as Bismuth-Corlette IIIB. Liver biopsy confirmed moderately differentiated adenocarcinoma. The patient underwent partial hepatic resection with lymphadenectomy of the hepatic pedicle, obtaining neoplasia-free surgical margins. Postoperative recovery was satisfactory. Surgical resection with curative intent remains the primary therapeutic modality when feasible, reinforcing the importance of adequate staging and multidisciplinary management.

Keywords: Cholangiocarcinoma. Biliary neoplasms. Liver surgery. Case report.

Abstract

Cholangiocarcinoma is a rare and aggressive malignant neoplasm arising from the biliary epithelium. Diagnosis is often delayed due to nonspecific symptoms. We report the case of a 59-year-old female presenting with epigastric and right upper quadrant pain for one year, associated with postprandial nausea and vomiting, without jaundice or weight loss. Laboratory tests showed mild hyperbilirubinemia and normal tumor markers. Computed tomography and magnetic resonance cholangiography revealed an infiltrative lesion in hepatic segment IV with intraductal extension involving the hepatic hilum, classified as Bismuth-Corlette IIIB. Liver biopsy confirmed moderately differentiated adenocarcinoma. The patient underwent partial hepatectomy with lymphadenectomy of the hepatic pedicle, achieving tumor-free margins.

Postoperative recovery was uneventful. Surgical resection with curative intent remains the cornerstone of treatment when feasible.

Keywords: Cholangiocarcinoma. Biliary neoplasms. Liver surgery. Case report.

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1. Introduction

Cholangiocarcinoma is a rare and aggressive malignant neoplasm originating from the epithelium of the bile ducts, and can arise from the intrahepatic ducts to the distal portion of the biliary tract. It is the second most frequent primary liver neoplasm and has shown increasing incidence in recent decades, partly related to improvements in diagnostic methods (CARINGI et al., 2025; LIGUORI et al., 2025).

Although it has no defined etiology, it is associated with conditions that involve chronic inflammation of the biliary tract, such as primary sclerosing cholangitis, biliary tract cysts, parasitic infections, chronic liver diseases, cholelithiasis, and hereditary syndromes (COLANGELO et al., 2025).

The clinical presentation is variable and depends on the tumor location, often being nonspecific. Abdominal pain, asthenia, nausea, and weight loss are common, while cholestatic signs occur when there is obstruction of the common bile duct (LIGUORI et al.).
al., 2025).

Diagnostic investigation includes laboratory tests, tumor markers (CA 19-
9, CEA and alpha-fetoprotein) and imaging methods. Triphasic contrast-enhanced computed tomography and magnetic resonance cholangiopancreatography are fundamental for assessing tumor extent and surgical planning (CARINGI et al., 2025).

Treatment depends on the stage and location of the tumor. Surgical resection with clear margins remains the only curative option, with systemic therapies reserved for selected cases or advanced disease (COLANGELO et al., 2025).

2. Theoretical Framework / Results

2.1 Classification and approach to cholangiocarcinoma

Cholangiocarcinoma can be classified as intrahepatic, perihilar, and distal, differing in etiology, clinical presentation, and prognosis. Perihilar tumors are classified according to Bismuth-Corlette, based on the extent of involvement of the hepatic ducts (CARINGI et al., 2025).

Resectability depends on obtaining a negative surgical margin (R0) and preserving adequate remaining liver volume. In normal livers, a volume ÿ20–25% is considered satisfactory, while in steatotic livers or those undergoing chemotherapy, ÿ30–35%, and in Child-Pugh A cirrhotic patients, ÿ40% (COLANGELO et al., 2025).

Surgical treatment of perihilar tumors is complex and often involves hepatectomy associated with resection of the extrahepatic biliary tract and lymphadenectomy of the hepatic pedicle (CARINGI et al., 2025).

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2. Material and Method

This is a descriptive case report study, based on clinical, laboratory, radiological, surgical, and anatomopathological data from a patient treated at a tertiary hospital. The information was obtained through a review of medical records and complementary examinations, respecting ethical principles and the patient's anonymity.

3. Results and Discussion

A 59-year-old female patient, hypertensive and diabetic, from Manaus, with no history of alcoholism, smoking, or family history of neoplasms, presented with epigastric and right hypochondrium pain for about a year, radiating to the back, associated with nausea and vomiting after eating. She denied fever, weight loss, or signs of cholestasis. The physical examination did not reveal any relevant abnormalities.

Laboratory tests showed a slight elevation in bilirubin, with
Tumor markers within normal limits. Computed tomography and...

Magnetic resonance cholangiopancreatography (MRCP) revealed an infiltrative lesion in hepatic segment IV, with an intraductal component involving the common hepatic duct and the left hepatic duct, causing marked dilation of the left bile ducts, consistent with Bismuth-Corlette IIIB perihilar cholangiocarcinoma.

Liver biopsy revealed moderately differentiated adenocarcinoma, with a profile
Immunohistochemical findings consistent with cholangiocarcinoma.

The patient underwent partial hepatectomy with lymphadenectomy of the hepatic pedicle and resection of the lesion with a margin greater than 1 cm. The histopathological examination confirmed papillary adenocarcinoma infiltrating the hepatic parenchyma, measuring 3.8 × 2.0 cm, with free margins and absence of neural or lymphovascular invasion.

Perihilar cholangiocarcinoma presents a high level of therapeutic complexity, being the
Complete surgical resection is the main favorable prognostic factor (CARINGI et al., 2025).
Advances in systemic therapies and molecular characterization have broadened the options.
There are therapeutic options, but surgery remains the only potentially curative modality.
(LIGUORI et al., 2025; COLANGELO et al., 2025).

Final Considerations

Cholangiocarcinoma is a rare, aggressive neoplasm that is difficult to diagnose early.
The case presented highlights the importance of investigation using advanced imaging methods.

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and histopathological confirmation for therapeutic definition. Surgical resection with margins Free survival remains the main factor associated with survival, making its assessment fundamental. Careful assessment of resectability and remaining liver volume. Multidisciplinary management is Essential for optimizing results.

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