



CASE REPORT | LIVER

Duodenal Recurrence of Fibrolamellar Carcinoma 12 Years After Partial Hepatectomy and Adjuvant Chemotherapy

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ABSTRACT

Fibrolamellar carcinoma (FLC) has a better prognosis than hepatocellular carcinoma; however, it is a highly recurrent disease. A 17-year-old woman presented with FLC with regional disease at the right lobe of the liver and underwent right hepatic lobe resection plus adjuvant chemotherapy with interferon α and adriamycin. She then presented at age 29 years with anemia. Endoscopy revealed an exofitic lesion in the duodenum, which was a recurrence of FLC. The patient underwent duodenal partial resection of a metastatic FLC tumor with disease-free edges and without neural or lymphoid-vascular involvement, a nonreported site of recurrence.

INTRODUCTION

Fibrolamellar carcinoma (FLC) is a rare form of hepatocellular carcinoma (HCC) that usually affects young adults, without gender predilection, and it is not associated with chronic liver disease.^{1,2} At the time of diagnosis, 33% of patients have already developed metastasis and are not operable.³ Metastatic lesions to diverse organs and tissues such as lymph nodes, peritoneum, retro-peritoneum, mesentery, pancreas, spleen, ovary, mediastinum, pericardium, lung, and musculoskeletal system have been described in different series and case reports.⁴⁻⁷ Although it has been well demonstrated that surgical treatment offers an excellent overall survival rate at 5 years (70%), FLC is a highly recurrent disease, with a recurrence-free survival rate of only 18% at 5 years in previously tumor-resected patients.¹

CASE REPORT

A 29-year-old woman with history of fibrolamellar carcinoma presented for preoperative evaluation for an umbilical hernioplasty. She was diagnosed with FLC 12 years earlier, presenting with jaundice, generalized pruritus, and a single focal right hepatic lesion found on abdominal ultrasound. In addition to FLC, her past medical history included gestational diabetes and hypothyroidism. Her only medication was levothyroxine. A chest, abdominal, and pelvic computed tomography (CT) was performed prior to surgery without evidence of metastatic disease. The α -fetoprotein (AFP) was 1.3 ng/mL, and the viral hepatitis profile was negative. The patient underwent an exploratory laparotomy that showed a tumor from the right lobe of the liver extending to the extrahepatic biliary tract. Right lobe hepatic and bile duct resections with Roux-en-Y hepaticojejunostomy were performed. The histopathology was consistent with FLC involving the right lobe of liver and the extrahepatic bile duct, free edges, and no neural or lymphoid-vascular involvement (Figure 1). The patient was treated with adjuvant chemotherapy (adriamycin and interferon α). Follow-up with clinical evaluation, AFP, and CT occurred every 3 months for 2 years and then every year for another 3 years without recurrence.

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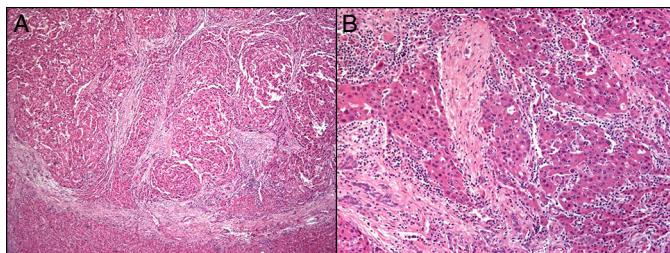


Figure 1. Microscopic (A) 10x and (B) 40x appearance of primary tumor showing the classical laminated fibrous layers interspersed between the eosinophilic neoplastic hepatocytes. The histopathologic report confirmed fibrolamellar carcinoma moderately differentiated.

At preoperative evaluation, she reported nausea and painful abdominal bloating. Laboratory data revealed iron-deficiency anemia, and a fecal occult blood test was positive. An upper endoscopy revealed an ulcerated exophytic lesion in the second portion of the duodenum. An endoscopic ultrasound showed a 5-cm hypoechoic nodular lesion in the muscularis propria with 80% occlusion of the duodenal lumen. Direct biopsy of this lesion revealed FLC. A chest and triphasic CT of the liver showed a contrast-enhanced duodenal mass without peripheral fat or other organ involvement (Figure 2).

A duodenal resection and a gastrojejunostomy were performed. The histopathology revealed a $4.3 \times 3 \times 2.4$ cm FLC with free edges and without neural or lymphoid-vascular involvement (Figure 3). Immunohistochemistry was positive for hepatocyte paraffin-1 and cytokeratin-10, and was negative for glipican 3 (Figure 4).

DISCUSSION

Fibrolamellar carcinoma is a rare variant of HCC, described by Edmonson in 1956, and accounts for only 0.9% of HCC.⁶ This subtype is characterized by eosinophilic neoplastic hepatocytes separated into cords by lamellar fibrous strands. In comparison to HCC, FLC occurs more often in young patients with normal liver, elevation of the AFP level is



Figure 3. Macroscopic appearance of duodenum tumor in duodenum-resected segment with a size of $4.3 \times 3.0 \times 2.4$ cm.

uncommon, and the prognosis is better. According to the United States Surveillance, Epidemiology, and End Results database, this type of cancer can be classified as localized disease (ie, the tumor is confined to the organ where it arose), regional disease (ie, the tumor has disseminated to nearby organs, tissues, or lymph nodes), and metastatic disease (ie, the tumor has disseminated to distant organs and lymph nodes). At diagnosis, up to one-third of the patients have metastases, and only 40% of them may be candidates for surgical resection.³ In a study of 41 patients with FLC who underwent resection, frequencies of recurrence to the liver, abdominal lymph nodes, lungs, and mediastinal lymph nodes are 44%, 33%, 29%, and 10%, respectively.⁸ The best treatment for FLC is surgical resection or liver transplantation whenever possible. In a subanalysis from the Surveillance, Epidemiology, and End Results database, it was reported that the mean survival rate is better for the localized form than for the metastatic form, at 45 and 16 months, respectively.⁹ Although FLC is a highly recurrent tumor at 5 years (approximately four-fifths of subjects), the extrahepatic recurrences after this period are uncommon. In FLC recurrence, repeated resection of tumor or metastases should be considered because there is still no effective medical treatment.

The patient in this case presented with a new site of extrahepatic metastasis (duodenum), diagnosed more than a decade after the primary tumor. Although known for its relatively slow growth, to date there has been no report of a case of FLC with this presentation. Therefore, physicians should keep in mind that FLC may also have recurrence at the small bowel after a disease-free period of more than 5 years. According to the National Comprehensive Cancer Network, surveillance after resection should consist of magnetic resonance imaging or CT of the liver and AFP measurement every 3–6 months for 2 years and then every 6–12 months thereafter.

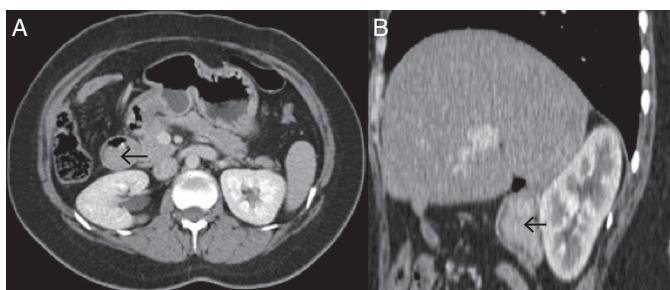


Figure 2. Triphasic abdominal CT with (A) axial and (B) sagittal reconstructions showing a solid duodenum mass lesion with contrast enhancement that partially occludes the duodenal lumen (arrow), without periduodenal fat, local tissue, or lymph node involvement.

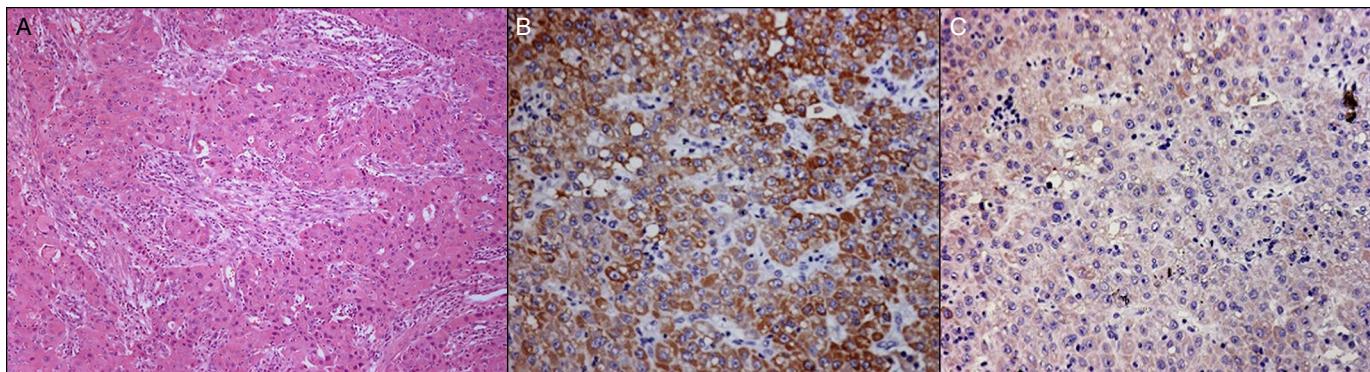


Figure 4. (A) Microscopic 40x hematoxylin and eosin staining showing the same laminated fibrous layers interspersed between the tumor cells as in primary tumor. (B) Positive immunochemistry for hepatocyte paraffin-1 and (C) cytokeratin-10.

DISCLOSURES

Author contributions: HA Díaz Hernández and IA Gómez Ruiz performed the literature review and wrote the manuscript. A. Torre reviewed and edited the manuscript and is the article guarantor.

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Informed consent was obtained for this case report.

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