Metastatic lung adenocarcinoma related α-Fetoprotein elevation in a patient with HBV-related cirrhosis

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Abstract

HCC is the most common type of primary liver tumor. The Practice Guideline, AASLD, for HCC recommended surveillance of HBV carriers at high risk of HCC with US every 6-12 months. Laboratory surveillance option is the measurement of serum α-fetoprotein level which has long been used for the diagnosis of HCC. But, increased serum levels of α-fetoprotein are also seen in acute hepatitis, cirrhosis, and malignancies include yolk sac carcinoma, neuroblastoma, hepatoblastoma, gastric and lung carcinoma. Because of elevation α-fetoprotein in these malignancies, liver mass with an elevated α-fetoprotein does not directly indicate HCC. For these reason, clinicians evaluating patient with liver mass and HBV-related cirrhosis should be vigilant for other case of α-fetoprotein elevation. (Acta gastroenterol. belg., **2015**, 78, **441-442**).

Key words : α-Fetoprotein, metastatic lung adenocarcinoma, cirrhosis.

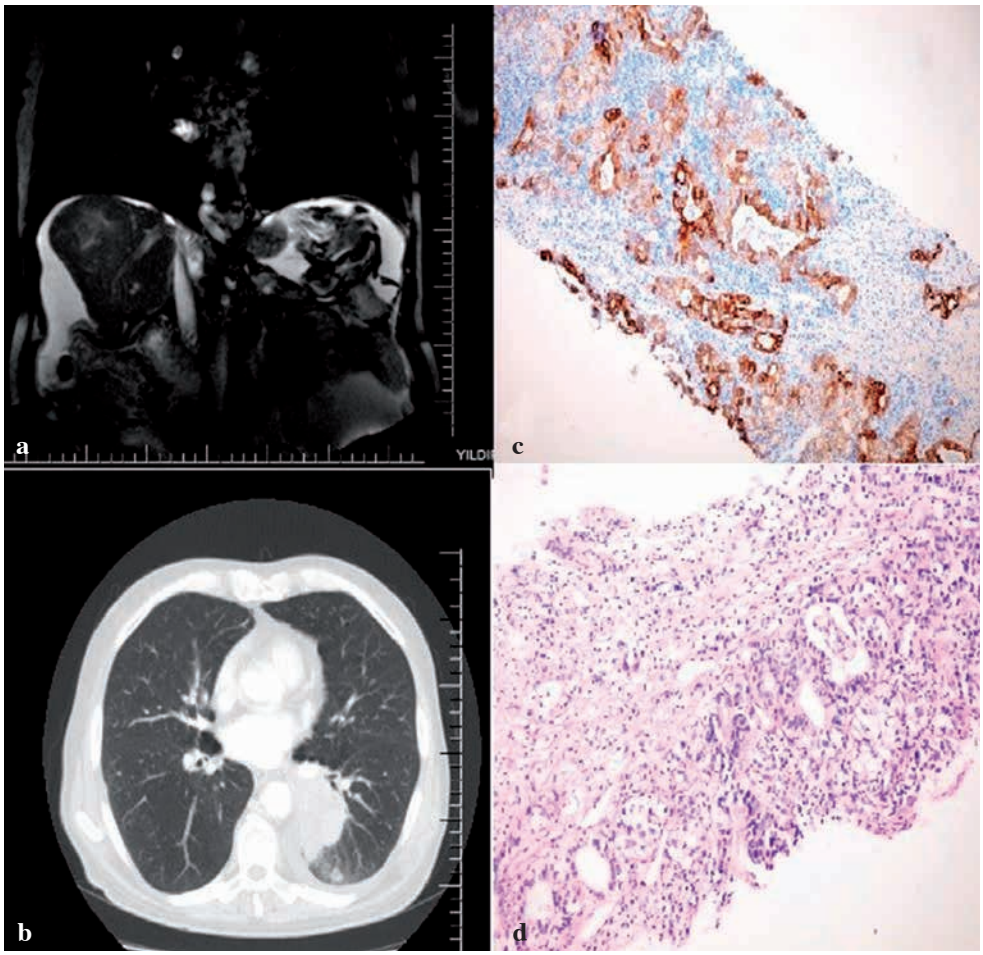

Fig. 1. — (a) Radiologic and histopathologic images. Dynamic MR of the liver showed atrophic right lobe and a hypodense mass in heterogeneous density with a size 7 cm and portal and superior mesenteric veins were not infiltrated. (b) Contrast-enhanced computed tomography image of the superior segment of the left lower lung lobe shows a hyperintense lesion with infiltration around the segmental bronchus. (c) Histopathological examination of hepatic sample presenting atypical pleomorphic cells forming irregular adenoids structures in the inflamed desmoplastic stroma ; Hematoxylin and eosin stain ×200. (d) Immunohistochemical CK7 stain ×200.

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A 72-year-old man was admitted to our clinic with the complaints of fatigue, weakness and weight loss. He had a history of Chronic Hepatitis B (CHB) (HBeAg-negative CHB) and he was under the entecavir (0.5 mg/day) treatment for the last five years. On physical examination, he had an anemic appearance, with blood pressure of 115/75 mm/Hg and a pulse of 64 beats per minute and no encephalopathy and flapping tremor. Blood tests showed the white-cell count was 9300 per cubic millimeter, the hemoglobin level 11.1 g/dl, the platelet count 148.000 per cubic millimeter, alanine aminotransferase 42 IU/L (reference range : 10-49 IU/L), aspartate aminotransferase 76 IU/L (reference range : 0-34 IU/L), gama glutamyl transferase 406 IU/L (reference range : 8-61 IU/L), alkaline phosphatase 308 IU/L (reference range : 40-129 IU/L), total bilirubin 1.2 mg/dl (reference range : 0.3-1.2 mg/dl), albumin 3.5 g/dL. The partial thromboplastin time was 14.7 seconds with minimally prolonged time (10.5-14.5). Additional laboratory test were as follows : HBsAg (+), HBeAg (-), anti-HBe (+), HBV DNA negative, α-fetoprotein (AFP) 154 ng/mL (reference range : 0-8,1 ng/mL), the AFP value was 11 ng/mL nine monaths ago, and testing was negative for hepatitis C, hepatitis D and human immunodeficiency virus.

A hypo echoic masse measuring 7 cm in diameter in the right posterior lobe of liver was detected on hepatobiliary ultrasonographic examination. A dynamic magnetic resonance (MR) was preferred for the lesion's further evaluation. Lesion was not compatible with typical hepatocellular carcinoma (HCC). Atypical pleomorphic cells forming irregular adenoids structures in the inflamed desmoplastic stroma were revealed (Fig. 1a). Pulmonary infiltrative lesions in the superior segment of the left lower lung lobe were detected on the thoracic computerized tomography (Fig. 1b). Biopsies of the liver lesion showed adenocarcinoma similar to that found in the bronchoscopic sampling (Fig. 1c and d). The patient refused to undergo further treatment. He died 4 month after he was discharged from the hospital.

HCC is the most common type of primary liver tumor. The AASLD Practice Guideline for HCC surveillance of HBV carriers recommends that the follow up should be done using US every 6-12 months due to high risk of HCC (1). Laboratory surveillance option is the measurement of serum AFP which has long been used for the diagnosis of HCC. But, increased serum levels of AFP are also seen in acute hepatitis, cirrhosis, and malignancies including yolk sac carcinoma, neuroblastoma, hepatoblastoma, gastric and lung carcinoma (2). Liver mass with an elevated AFP does not directly indicate HCC because of elevation in AFP level in those malignancies. Identifying the HCC and the metastatic adenocarcinoma can be difficult on histological basis. This case exemplifies that immunohistochemical analysis of cytokeratin (CK) expression patterns can be useful. Metastatic adenocarcinoma tumor cells were strongly positive for CK7 stain. But, the CK7 stain is usually negative in HCC (3). Taken together, clinicians evaluating patients with liver mass and HBV-related cirrhosis should be vigilant for other causes of AFP elevation.

References

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