

CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

Internal Medicine Quiz - Case 4

A 72-year-old man was admitted due to severe weakness, fatigue and pitting edema of the lower extremities, which started 2 weeks before. He also reported weight loss of 10 kg in the last six months. He had no fever or chills since appearance of the symptoms. His medical history included a vocal chord polyp, acute myocardial infarction, chronic obstructive pulmonary disease, hepatitis B and multiple hemangiomas of the liver. He was a heavy smoker (60 packet-years) and reported social consumption of alcohol.

On physical examination, his general condition was good. Heart rate was 90 bpm (sinus rhythm) and blood pressure was 120/70 mmHg. A pansystolic murmur was clearly audible over the precordium. Palpation of the abdomen revealed an excessive hepatomegaly: the liver extended 20 cm below the right costal margin and 10 cm



Figure 1.

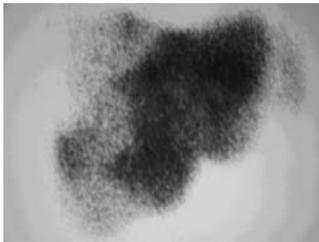


Figure 2.

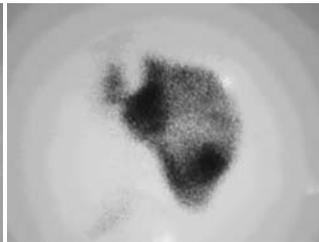


Figure 3.



Figure 4.

below the left costal margin, with an irregular border and a mild tenderness to palpation. Palpation of the spleen was difficult due to the aforementioned hepatomegaly. The rest of the examination of the abdomen revealed no abnormal findings (of note was the absence of ascites). Examination of the skin revealed skin pallor, palmar erythema, spider naevi and telangiectasias. No peripheral lymphadenopathy was observed.

The laboratory investigation revealed the following: Ht 25.9%, Hb 8.5 g/dL, reticulocyte counts 1.21%, RBC $2,590 \times 10^5/\mu\text{L}$, WBC $3,060/\mu\text{L}$, PLT $232,000/\mu\text{L}$, glucose 108 mg/dL, LDH=262 IU/L, total bilirubin 1.15 mg/dL, alkaline phosphatase 408 IU/L, γ -GT 352 IU/L, SGOT 112 IU/L, SGPT 61 IU/L, total protein 6.1 g/dL (albumin 4.0 g/dL), serum urea 55 mg/dL, serum creatinine 0.9 mg/dL, CRP 3.02 mg/L, ESR 34 mm/1h, serum iron 214 $\mu\text{g/dL}$, ferritin 2,900 ng/mL, TIBC 214 $\mu\text{g/dL}$, B₁₂ 744.3 pg/mL, folate 16.3 pg/mL, haptoglobin 48 mg/dL, INR 1.2, aPTT 45.6 sec, fibrinogen 366 mg/dL, AFP 9.37 ng/dL (normal <6 ng/dL), CEA 3.46 U/mL, CA 19-9 54.4 U/mL (normal <37 U/mL), NH₃ 31 $\mu\text{g/dL}$, HBsAg(-), anti-HBsAg Ab(+), anti-HBcAg Ab(+), anti-HCV(-), T₃ 2.63 nmol/L, T₄ 146 nmol/L, TSH 1.31 mU/L, RF(-), normal C₃ and C₄, c-ANCA(-), p-ANCA(-), ANA(-), SMA(-), AMA(-). Fecal occult blood testing was negative.

X-ray of the chest was performed (fig. 1). Ultrasound examination of the abdomen confirmed the excessive hepatomegaly (22.5 cm) and revealed heterogeneous liver structure. A mass was detected at the right lobe (d=86.6×84.1 mm), with mixed echomorphology and increased blood flow. Multiple lesions of variant size and low echogenic structure were also detected. Accompanying splenomegaly was also revealed (13.8×7.9 cm). Color duplex sonography of the portal vein was normal except from an increased flow

through the hepatic artery (PSV=170 cm/sec, EDV=91.9 cm/sec). Upper GI endoscopy showed two dilated collateral veins (varices) at the esophagus without signs of bleeding. Lower GI endoscopy was normal.

A liver scintigraphy with ^{99m}Tc (figures 2, 3) and a chest-abdomen CT scan were then performed (fig. 4). A liver biopsy established the diagnosis.

Comments

Alpha-fetoprotein (AFP) is a glycoprotein normally synthesized during the fetal life by the yolk sac of the embryo and then the fetal liver. AFP decreases rapidly during the first months of life and by the age of 1 year, it reaches the normal adult values (<20 ng/mL). Its presence in the adult suggests dedifferentiation of the hepatocyte and therefore it is mostly observed in hepatocellular carcinoma (HCC); typical values of >400 $\mu\text{g/L}$ (values of >500 $\mu\text{g/L}$ are found in about 70–80% with HCC). Lower values are less specific and occur in hepatocellular regeneration (such as in acute or chronic hepatitis) as well as in liver metastases from gastric or colon tumors. The presence of an arterially enhancing liver mass >2 cm documented by two imaging procedures or by one imaging together with an AFP >400 $\mu\text{g/mL}$ is highly suggestive of HCC.

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Diagnosis: Hepatocellular carcinoma

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