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## Two Cases of Hepatic Angiomyolipoma with Radiologic Similarity to Hepatocellular Carcinoma

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Hepatic angiomyolipoma (AML), a rare benign mesenchymal tumor, is composed of fatty tissue, proliferated blood vessels, and smooth muscle cells. Since the proportion of this three components is variable, radiologic and pathologic findings of the tumor can show different features, which makes its diagnosis difficult. On ultrasonography, it is usually a well defined hyperechoic mass and has occasional posterior enhancement of echoes as seen in hemangioma. On dynamic enhancement study, it shows not only prominent enhancement on the arterial-dominant phase and gradual hypoattenuation on the delayed phase, but also gradual and prolonged enhancement, and thus, it can be misdiagnosed as hepatocellular carcinoma or hemangioma. Positive reactivity for HMB-45, melanoma-specific antibody, makes the diagnosis possible and reactivity for smooth muscle actin confirms the diagnosis. We report two cases of hepatic AMLs, which were initially thought to be hepatocellular carcinomas because of early enhancement of the arterial phase and gradual hypoattenuation of the delayed phase on dynamic study of CT or MRI. One case was treated by chemoembolization of hepatic artery followed by hepatic resection, and the other was treated by hepatic resection after gun biopsy under ultrasound guidance. (**Kor J Gastroenterol 2000;36:424 - 430**)

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**Key Words:** Hepatic angiomyolipoma, Dynamic enhancement study

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 4080/mm<sup>3</sup> 12.7  
 g/dL, 38.0%, 254,000/mm<sup>3</sup>  
 . 83 mg/dL,  
 8.3 mg/dL, 3.7 mg/dL, BUN 11.3 mg/dL, crea-  
 tinine 0.9 mg/dL, 5.4 g/dL, 3.5 g/dL,  
 133 mg/dL, AST 17 IU/L, ALT 15  
 IU/L, ALP 38 IU/L, 0.4 mg/dL, -GT

11 IU/L . PT 10.7 (100%), PTT 30.6 ,  
 3.16 IU/ml .  
 . HBsAg , anti-HBs Ab ,  
 anti-HCVAb .  
 8 1.8 cm  
 가 (Fig. 1A).  
 (Fig. 1B),

(adriamycin 30 mg, lipiodol 4 cc, gelfoam)  
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 lipiodol ,  
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 1.5 cm ,  
 가 30%  
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 HMB45 smooth muscle actin  
 (Fig. 2).

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**Fig. 1.** Radiologic finding of abdominal ultrasonography (A) and dynamic CT scan (B) of case 1. (A) Abdominal ultrasonography shows a well-defined hyperechoic mass of oval shape about 1.8 cm in diameter at the segment VIII of the liver. (B) Dynamic CT shows a hepatic mass that appears homogenously enhanced on the arterial phase (up) and hypoattenuated on the delayed phase (down).

154 mg/dL, AST 12 IU/L, ALT 10 IU/L, ALP 48 IU/L, 0.6 mg/dL, -GT 10 IU/L . PT 12.8 (100%), PTT 41.7 , <2 IU/ml . HBs Ag , anti-HBs Ab , anti-HCV Ab . 5.7×3.9 cm 가 8 . 1.5T (Horizon, GE Medical systems, WI, U.S.A.)

**Fig. 2.** Immunohistochemical staining of case 1. The tumor is immunohistochemically positive for HMB-45.

8,080/mm<sup>3</sup> 13.0 g/dL, 38.7%, 298,000/mm<sup>3</sup> . 68 mg/dL, 8.7 mg/dL, 3.2 mg/dL, BUN 8.9 mg/dL, creatinine 0.7 mg/dL, 6.9 g/dL, 4.5 g/dL,

T1 (spoiled gradient echo) (inphase) (TR=210 msec, TE=4.2 msec, flip angle [FA]=90°, receive bandwidth [RB]=31.3 kHz, field of view [OV]=28×21 cm, slice thickness/gap=10/0 mm, matrix size=256×128, 1 acquisition, scan time=22 sec) , (opposed phase) (TR=150 msec, TE=1.5 msec,

**Fig. 3.** Abdominal MR imaging of case 2. (A) Abdominal MRI shows a hepatic mass that has high signal intensity on T1-weighted inphase spoiled gradient echo (TR=210 msec, TE=4.2 msec, FA=90 °) (left) and low signal intensity with ring cancellation artifact on opposed phase image (TR=150 msec, TE=1.5 msec, FA=90 °) (median) and high signal intensity on T2-weighted breath-hold fast spin-echo (TR=3000 msec, effective TE=84 msec) (right). (B) Dynamic MRI shows a hepatic mass that appears well enhanced on the early arterial phase (left) and less on the delayed phase (right).

FA=90 °, RB=31.3 kHz, FOV=28 × 21 cm, slice thickness/gap=10/0 mm, matrix size=256 × 128, 1 acquisition, scan time=16 sec)

T2 (fast spin-echo) (TR=3000 msec, effective TE=84 msec, RB=6 kHz, echo train=11, FOV=28 × 21 cm, slice thickness/gap=8/2 mm, matrix size=256 × 128, 1 acquisition, scan time=54 sec)

(Fig. 3A). 0.1 mmol/kg (gadopen-tetate dimeglumine, Magnevist®, Schering AG, Germany), 1 ( ), 30 ( ), 1 ( ), 5 ( )

(Fig. 3B),

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 가 , HBsAg , anti-HBsAb  
 , anti-HCVAb ,  
 가 ,  
 gun biopsy  
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 5 × 4 cm 가  
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 gun biopsy



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