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Two giant cavernous hemangioma caused cavernous transformation of the portal vein in a pregnant woman

Hamile bir kadında portal venin kavernöz transformasyonuna neden olan iki dev kavernöz hemanjiyoma

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We report a case with two giant hemangiomas of the liver that caused cavernous transformation of the portal vein in a 45-yr-old full term pregnant woman. The patient had no serious complaints other than a mass and slight pain in the right upper quadrant and there were no abnormalities in laboratory values. Delivery was performed without complication. In the six month follow-up period, no changes were seen in the lesions.

Key words: Giant cavernous hemangioma, cavernous trans formation, gestational period.

Sağ üst kadran ağrısı ile kliniğimize başvuran ve fizik muayenede dev hepatomegali tespit edilen dokuz aylık gebe hasta, hepatomegali etiyolojisi araştırılmak için yatırıldı. Hastanın biyokimyasal parametreleri tamamen normal idi. Radyolojik incelemelerinde portal vende kavernöz transformasyona neden olan, karaciğerde iki dev kavernöz hemanjiyom tespit edildi. Hastanın doğumu komplikasyonsuz gerçekleştirildi. Postpartum altıncı ayda çekilen kontrol tomografide lezyonların boyutlarında değişiklik olmamasına rağmen, hastanın yakınmaları tamamen düzeldi.

Anahtar kelimeler: Dev kavernöz hemanjiom, kavernöz trans formasyon, gebelik.

INTRODUCTION

Hepatic hemangiomas are the most commonly observed primary tumors with a reported incidence of 4% at autopsy. Although they usually show unifocal localizations, multiple lesions may occur occasionally (1-4). Lesions with a diameter larger than 4 cm are called giant hemangioma (5) and these are usually located in the right hepatic lobe (3). Most cases with hemangioma are asymptomatic but in a small number of patients, manifestations such as fever, anemia, abdominal pain and a mass can be observed (1,6). In this study, we report a case with two giant cavernous hemangiomas that caused cavernous transformation of the liver region of the portal vein in a full-term pregnant woman.

CASE REPORT

A 45-yr-old woman in the 37th week of gestation was referred to our clinic due to an abdominal mass and pain. She had a history of intermittent complaints such as a sense of fullness and pain in the right upper quadrant.

Blood pressure was measured as 100/60 mmHg and pulse rate as 98/min. On physical examination she was observed to be slightly pale in appearance and her upper abdomen was entirely filled with a tumoral mass protruding up to both crista iliaca anterior-superior. It was defined as a hard, lobuled mass with a sharp edge.

Laboratory findings were as follows: hematocrit 37.7, leucocytes: 12xl09/L (81% neutrophils), platelets: 282xl09/L, alkaline phosphatase: 306 U/L (N=270). Other parameters were found to be normal. At abdominal ultrasonography (US), two giant masses were observed with heterogeneous hyperecogenic echo pattern mainly occupying the right and left lobe. Both masses were extending

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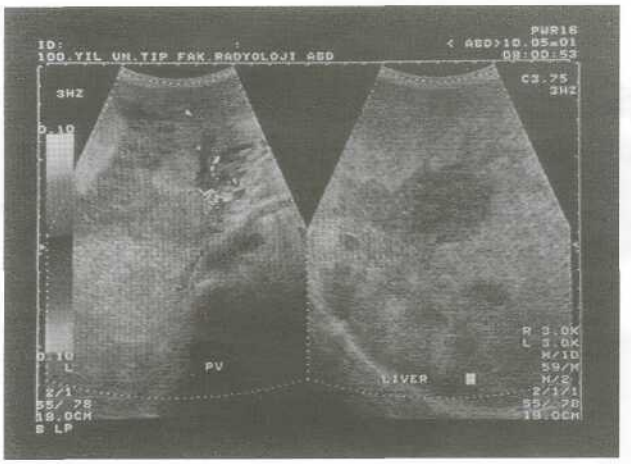

Figure 1. Color Doppler US revealed two giant masses in the liver causing cavernous transformation of the portal venous system in the hilar region of the liver.

externally from the liver to the inferior left side and into the intraabdominal space. Color Doppler US showed no vascularity into the mass but revealed cavernous transformation of the portal venous system in the hilar region of the liver (Figure 1). In magnetic resonance imaging (MRI), two giant masses measuring 25x14x17 cm in the right lobe and 21x17x7 cm in the left lobe were observed, both of which had significantly higher signal intensity on the T2-weighted images. In dynamic contrasted MR examination, the masses showed enhancement which were subsequently filled in with contrast from the periphery in the late images, which is typical of hemangioma (Figure 2 A, B). There were no findings indicative of portal hypertension such as splenomegaly and esophageal varices.

On the second day of admission, delivery was performed by caesarean section and the baby was born healthy and of normal weight. During the intraoperative period, normal hepatic tissue was not seen and a lobulated hard tumoral mass was observed to have entirely filled the upper abdomen. Fine needle aspiration biopsy was performed and histopathological examination of the material was diagnosed as hemangioma. The patient was discharged without any complication. In the sixth month of her postpartum period, the patient continued to have no complaint apart from some slight pain in right upper quadrant and computed tomography examination showed no change in the diameter of the masses.

DISCUSSION

Hemangiomas are the most commonly observed benign tumors of the liver, with the prevalence in women being nine times greater than in men (3,7). The lesion is made up of small or large vascular structures in great numbers and containing connective tissues of various proportions. Rapid growth of hemangioma in some cases during pregnancy is believed to be associated with hormonal factors (7,8). Although the previous state of the mass was not known, we considered it likely that

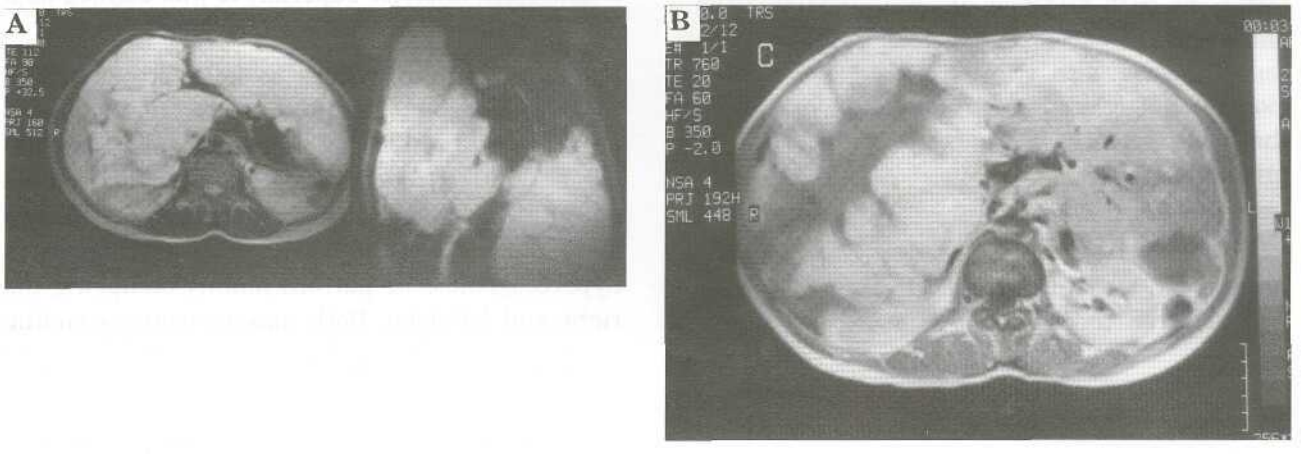

Figure 2. MRI shows two giant masses, 25x14x17 cm in right lobe and 21x17x7 cm in left lobe. Both masses had significantly higher signal intensity in T2-Weighted images (A). In dynamic contrasted examination, masses showed enhancement, which subsequently filled with contrast from the periphery in late images (B).

hormonal factors had influenced the size of the mass since it was the patients twelfth pregnancy. However, in the radiological examination at six months postpartum no change was observed in size and it therefore cannot be said with certainty that hormonal factors had influenced the size of the mass.

Most hemangiomas are clinically asymptomatic although symptoms may be observed in lesions with diameters larger than five cm (9), with fever, abdominal pain, anemia and abdominal mass being non-specific symptoms seen in 30-50 % of such patients (1). Progression of the tumor can lead to congestion, bleeding, thrombosis and infarction (2). Giant hemangioma can also cause obstructive jaundice, biliary colic and gastric outlet obstruction (9). Rarely, it may also produce such complications as intrahepatic and intraperitoneal bleeding (3). In our case, there was no symptom other than slight upper quadrant pain and palpation of an abdominal mass, with cavernous transformation being seen in the hilus of the liver at doppler US examination. We could not find such a complication of hemangioma in the literature and considered that cavernous transformation had developed because of the mass effect of the lesion and failed drainage in the portal vein.

Liver function tests are generally found to be normal in hemangioma cases (3), although intrahepatic compression of the biliary tract could cause some changes and some cases, thrombocytopenia can also be observed (2). Thrombocytopenia is also rarely observed in hemangioma coexistent with Kasabach-Merritt syndrome (7). In our case, all laboratory data were normal other than mild anemia.

There is no requirement for active treatment of hemangioma of the liver if no complications develop because giant hemangiomas can spontaneously become smaller in time (9), but surgical excision should be performed on patients with a risk of rupture. Enucleation or resection of very large lesions according to the anatomic structure can be an ideal treatment (6,9). The incidence of postoperative complications is about 20-45 % (10). Transarterial embolization could prove to be useful in terms of controlling bleeding and the safety of the surgical procedure being applied (4). In serious coagulopathy and in conditions where surgical excision is contraindicated, liver transplantation could be a treatment option (2). In our case, no surgical procedure was considered necessary due to the absence of any complaint or complication.

In conclusion, liver hemangioma can increase to such a size that it covers most of the parenchyma and mass effect can obstruct venous return and cause the development of cavernous transformation in the portal venous collateral. In our case, however, two giant hemangiomas causing cavernous transformation did not result in any liver function test abnormalities or complication of pregnancy.

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