Case Report

Pseudolesion in left lobe of the liver due to superior vena cava obstruction

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ABSTRACT

We report a case of lymphoma in which abnormal strong enhancement in the medial segment of left lobe of liver during arterial phase of triphasic helical computed tomography due to superior vena cava obstruction.

Keywords: Superior vena cava, obstruction, helial computed tomography, pseudolesion.

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Superior vena cava (SVC) obstruction occurs due to many causes, in lympoma the cause is either due to compression by large lymph nodes or thrombosis of superior vena cava due to long term central line in it.[1-5]

Case Report. A 37 year old Saudi male presented with fever, persistent for 3 months, and left upper quadrant pain. Right supraclavicular lymph node was found and biopsy of that gave the diagnosis of Hodgkins Lymphoma, splenic abscess was suggested by computerized tomography (CT). Hickman catheter was inserted in the SVC for giving the chemotherapy and antibiotics. The central line became infected and had been replaced twice. After a remission period of three years, he presented again with cervical lymphadenopathy and splenomegaly, which suggested relapse. No SVC syndrome is seen in our patient. CT of chest and abdomen showed no contrast in the SVC and strong focal enhancement in the medial segment of the liver with large superior epigastric veins and collaterals approaching the bare area of the liver (Figure 1), so SVC obstruction was highly susupected and proven by superior vena cavogram via peripheral injection of contrast in the arm (Figure 2).

Discussion. Focal enhancement in the medial segment of the liver is seen in the early phase of helical CT of the abdomen in SVC obstruction[1-4] due to the collaterals. In SVC obstruction four systemic venous collateral pathways are recognized:[3,6-8] Internal mammary, superficial veins of the thorax, superior and inferior epigastric veins; Azygos pathway including the azygos, hemiazygos, intercostals, pericardial and lumbar, superficial circumflex, long saphenous and femoral veins to the inferior vena cava; Vertebral pathway, including the innominate, vertebral, intercostals, lumbar and sacral veins to the azygos and internal mammary pathways. Rarely right to left shunt from anastemosis between systemic and pulmonary ciculation,[3,7] pericardial veins are tributaries of azygos system and may show unusual enhancement in SVC obstruction. In our case systemic–portal communications occur through recanalization of left umbilical vein, through ductus venousus (round ligament) which joins the portal vein within the left lobe of liver which account for the focal enhancement of segment four of the liver[3] in

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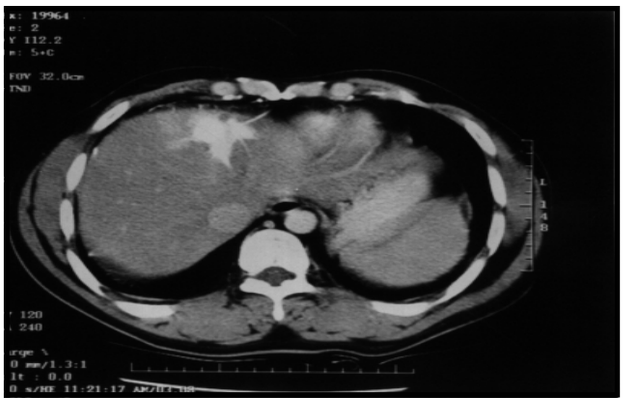

Figure 1 - Abnormal enhancement of the medial segment of left lobe of the liver during the arterial phase of three phase spiral CT.

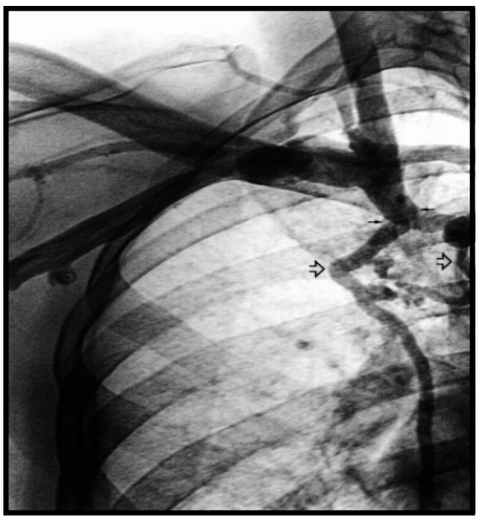

Figure 2 - Superior venacavagram, showed complete obstruction of SVC (small arrows) with the formation of collaterals (open arrows).

the arterial phase of triphasic helical CT and disappear in the delayed venous phase due to equilibration of liver perfusion.[2] SVC obstruction is diagnosed in CT by two types of criteria (a) Direct sign by non opacification of the SVC after injecting the IV contrast in the arm (b) Indirect sign by opacification of collateral veins.[6]

In conclusion, abnormal enhancement of medial segment in the left lobe if the liver is seen in SVC obstruction, recognizing this could avoid wrong diagnosis of liver lesion.

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