CLINICAL VIGNETTE

Liver Adenomas

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Case

A 28-year-old healthy female was admitted to the hospital for failed outpatient treatment of a urinary tract infection. Her clinical presentation was consistent with pyelonephritis and she required intravenous antibiotics, fluid resuscitation and medications for fevers, nausea and pain. She underwent a CT scan to evaluate for potential urinary obstruction as the source of the kidney infection and was incidentally noted to have a large hepatic mass of unclear etiology. After recovery from the infection, she underwent outpatient evaluation for the liver lesion. Contrast MRI demonstrated an arterial enhancing 5.6cm hepatic mass in segments 5/6 with the differential including atypical hemangioma vs adenoma. Given the size, she was referred to hepatobiliary surgery for consultation.

The patient was in good health prior to her admission. She had a history of iron deficiency anemia related to menstruation. She had no prior known liver disease, hepatitis or unexplained jaundice. She consumed a modest amount of alcohol and did not use NSAIDs or acetaminophen regularly. She had been on oral contraceptive medication for a number of years but no other medications.

After referral to hepatobiliary surgery, she underwent further imaging in hopes of differentiating an adenoma from hemangioma. A large adenoma would likely require surgical resection whereas a hemangioma would be managed conservatively. A specialized MRI with Eovist was ordered. Eovist is a gadolinium based contrast that was designed for its liver uptake properties.[1] The study was also unable to provide more information and she was referred for ultrasound guided core needle biopsy with interventional radiology. Pathology confirmed hepatic adenoma, inflammatory/telangiectatic variant. Due to the large size and associated risk of spontaneous hemorrhage, she proceeded with surgical resection.

Discussion

Hepatocellular adenomas (hepatic adenomas) are benign liver lesions commonly found in young women. In the 1970s, the association was made between these lesions and OCPs.[2] They are generally solitary but can be multiple, a condition known as liver adenomatosis. They are predominantly found in the right lobe and can widely range in size. In addition to estrogen containing contraceptive medication, other risk factors include anabolic steroids and glycogen storage diseases.[3] The differential for solitary hepatic tumors includes hemangiomas, focal nodular hyperplasia, regenerative nodules, hepatocellular carcinoma and metastatic disease. CT and MR imaging are the primary methods of diagnosis and less often tissue sampling. Most patients are asymptomatic with incidental discovery, however, patients can present with abdominal pain and/or bleeding.

Hepatic adenomas are a concern because of the low risk of malignant transformation and the higher risk of spontaneous bleeding. The traditional recommendation was to resect lesions larger than 5cm due to higher incidence of bleeding. Recent sub-classifications of adenomas have been developed to account for risk variation within genomic subtypes. Currently four subtypes exist: inflammatory, HNF1A-mutated, beta-Catenin activated, and unclassified.[4] The incidence of malignant transformation is considered to be low but one retrospective study found 12% of patients with non-resected adenomas later developed hepatocellular carcinoma.[5] The more common complication is bleeding and the risk increases with size. Management includes withdrawal of oral contraceptive therapy, selective arterial embolization if actively bleeding and surgical resection. In some cases, orthotropic liver transplantation has been performed for unresectable isolated tumors or diffuse adenomatosis.

Conclusion

The patient underwent successful, uncomplicated hepatic adenoma resection. The final pathology was consistent with the core needle biopsies and without evidence of malignancy. Her biggest risk factor was chronic use of oral contraceptives. She was seen several months after the procedure and had no issues with chronic pain. The site had healed well with recovery of abdominal musculature. She resumed normal activities but remained off oral contraception to minimize risk of new growths.

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