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Acute right upper quadrant pain: A lesson in odds

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TO THE EDITOR

The clinical utility of percutaneous liver biopsy is well recognized as it can yield invaluable information regarding staging and grading of liver disease, efficacy of various therapies and can aid in the diagnosis of complicated cases. As complications from this procedure are often rare, 60% occurring within 2 hours and 96% within 24 hours, it is generally performed on an outpatient basis and thought to be safe.^{1, 2}

Although the liver has a rich vascular supply, bleeding after biopsy has an incidence of only approximately 0.8 percent.³ We present a case of bleeding 36 hours after percutaneous liver biopsy with resultant subcapsular hematoma lasting until death (due to unrelated causes) six months after the procedure.

A 33-year-old man with a history of myelodysplastic syndrome was admitted for evaluation of fever. After a protracted course, characterized by multiple infections necessitating antibiotics and antifungals, he was found to have persistent elevations in serum alkaline phosphatase levels. His serum aminotransferase and bilirubin levels, platelet counts, and prothrombin time (INR) were normal. The patient underwent percutaneous liver biopsy and a 12 mm specimen was obtained after three passes with a 16 gauge Klatzkin needle. There were no immediate complications and hematocrit levels did not change over the next 24 hours. Pathology showed nodular regenerative hyperplasia. Thirty-six hours after the procedure, the patient developed sudden sharp right upper quadrant abdominal pain. His blood pressure fell to 82/54 mm Hg and pulse rose to 105 per min. A non-contrast abdominal CT scan was performed which revealed a 12.7 by 5.8 by 15.5 cm subcapsular hematoma with mild deformation of the right lobe of the liver. The repeat blood count confirmed a drop in hematocrit of 6.8%. After 3 units of packed red blood cells, he underwent right hepatic artery embolization. Repeat abdominal CT scan was performed 9 days later because of continued anemia (Figure A). Sixteen days later a bone marrow biopsy

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was complicated by prolonged bleeding, despite normal platelet counts and coagulation profile. Further analysis disclosed a defect in platelet aggregation.

Six months after the liver biopsy, the patient died due to complications of repeated infections. At autopsy his liver retained a 15 by 5 by 4 cm remnant of the perihepatic hematoma (Figure B).

The mortality rate among patients who undergo percutaneous liver biopsy is approximately 1 in 10,000 to 1 in 12,000.¹ Although generally safe, patients who undergo this procedure can experience significant complications. In a study of 3080 patients undergoing liver biopsy at one institution over a 9-year period, significant bleeding complications were reported in 22 patients (0.7%); among whom 17 required blood transfusion.³ Bleeding became evident within 3 hours in 19 patients, but arose 3 to 13 days later in the remaining 3.³ However, a Medline search did not identify any cases of subcapsular hematoma persisting for 6 months after percutaneous liver biopsy, as noted with this patient. Even though the patient's bleeding disorder likely contributed to the persistent hematoma, the autopsy findings were noteworthy. While rare, delayed or continued subcapsular bleeding is possible, particularly in the setting of a bleeding disorder. In this case, the bleeding disorder was only diagnosed after the liver biopsy.

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Figure A.
CT of the abdomen 9 days post bleed. White arrow points towards the subcapsular hematoma. Note the contrast blush suggesting continued bleeding.

Figure B.
Gross pathologic specimen of liver revealing persistent subcapsular hematoma (black arrow).