

Bleeding Hepatic Tumors

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EXTRACT

Spontaneous bleeding of liver neoplasms without trauma or anticoagulant treatment is uncommon. However, when present, it becomes an emergency condition that may require surgical intervention or angiographic embolization.

Key words : Bleeding, hepatic tumors

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These tumors are usually hypervascular and are categorized as following:

1. Benign hepatic tumors
 - a. Hepatic adenoma
 - b. Giant cavernous hemangioma
2. Primary malignant hepatic tumors
 - a. Hepatocellular carcinoma (HCC)
 - b. Angiosarcoma
3. Secondary malignant hepatic tumors (hypervascular metastasis)

Hepatic Adenoma (Figure 1)

Hepatic adenoma is the 3rd most common benign liver tumor and most commonly found in the female of reproductive age. Hepatic adenoma is associated

with history of long-term use of oral contraceptive pills. The patients usually present with acute abdominal pain if spontaneous bleeding occurs.

Giant Cavernous Hemangioma (Figure 2)

Hemangioma is the most common benign tumor of the liver and usually occurs in female of perimenopausal age. It is considered giant if the size is larger than 5 cm, and unusual manifestations may occur. Hemangioma is rare to have spontaneous bleeding, but it can occur particularly when it is large.

Hepatocellular Carcinoma (Figure 3)

HCC is the most common hepatic neoplasm that shows spontaneous rupture and bleeding, accounting

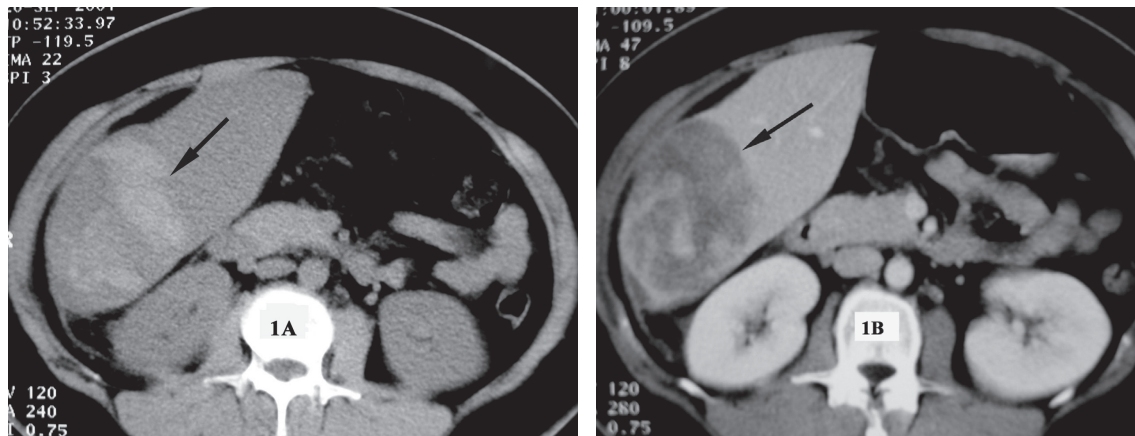


Figure 1 Bleeding hepatic adenoma in a 35-year-old female with sudden onset of RUQ pain.

- A Plain CT shows hyperdense bleeding (arrow) within the tumor, which bulges the contour of the hepatic tip.
B Contrast enhanced CT shows heterogeneous enhancement of the tumor.

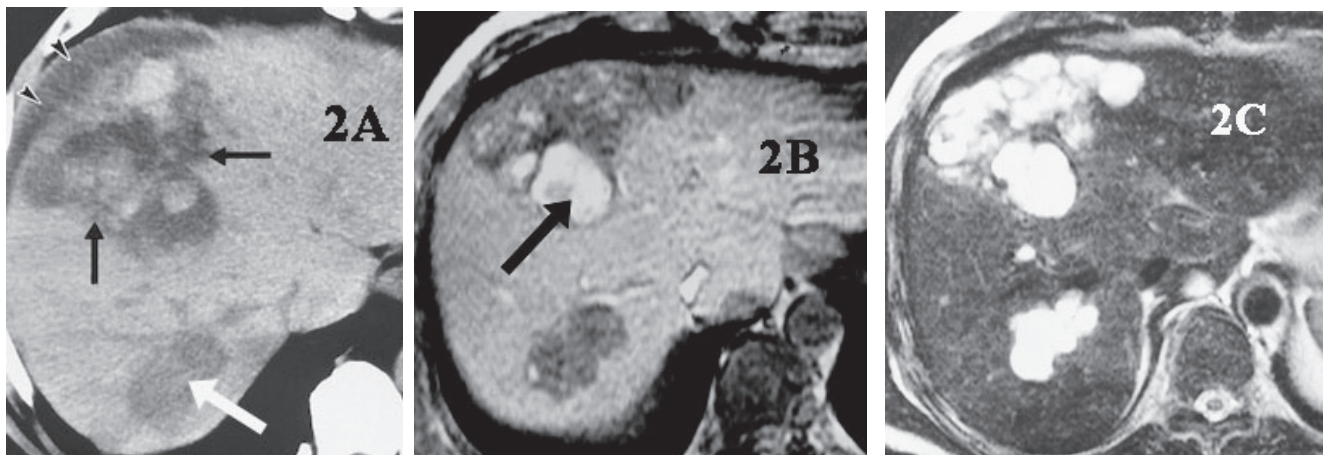


Figure 2 A 57-year-old female with known hepatic hemangioma presented with acute RUQ pain. Spontaneous rupture of a hemangioma is very rare.

- A Plain CT shows a large lobulated, low density mass at segment 8 of right lobe liver (black arrows). Intratumoral hyperdensity represents spontaneous bleeding. Subcapsular hematoma adjacent to the tumor is also noted (arrowheads). Note another smaller hemangioma at segment 7 of right lobe liver (white arrow).
B T1W MRI shows high signal intensity within a large hemangioma representing bleeding (arrow). The smaller hemangioma is of low signal intensity.
C T2W MRI reveals characteristically bright signal intensity of both hemangiomas.

for approximately 7-14% of cases⁽¹⁾. If the tumor locates near the capsule, it can rupture into the peritoneal cavity and massive bleeding can cause hypovolemic shock. It is actually the most common cause of nontraumatic acute hemoperitoneum in male patients. Bleeding is believed to be secondary to rupture of a large feeding artery or draining vein. Moreover, angioinvasion by the tumor may cause congestion and high pressure within the vessels, made them prone to spontaneous rupture⁽²⁾.

Angiosarcoma (Figure 4)

Angiosarcoma is a rare primary malignant liver tumor. In the past, exposure to the Thorotrast is a risk factor for this tumor. At the present day, the tumor can develop de novo. Since it is a vascular malignant tumor, spontaneous bleeding is not unusual.

Hypervascular Metastasis (Figure 5, 6)

Although any hypervascular metastasis can rupture and bleeding, the common primary malignancies

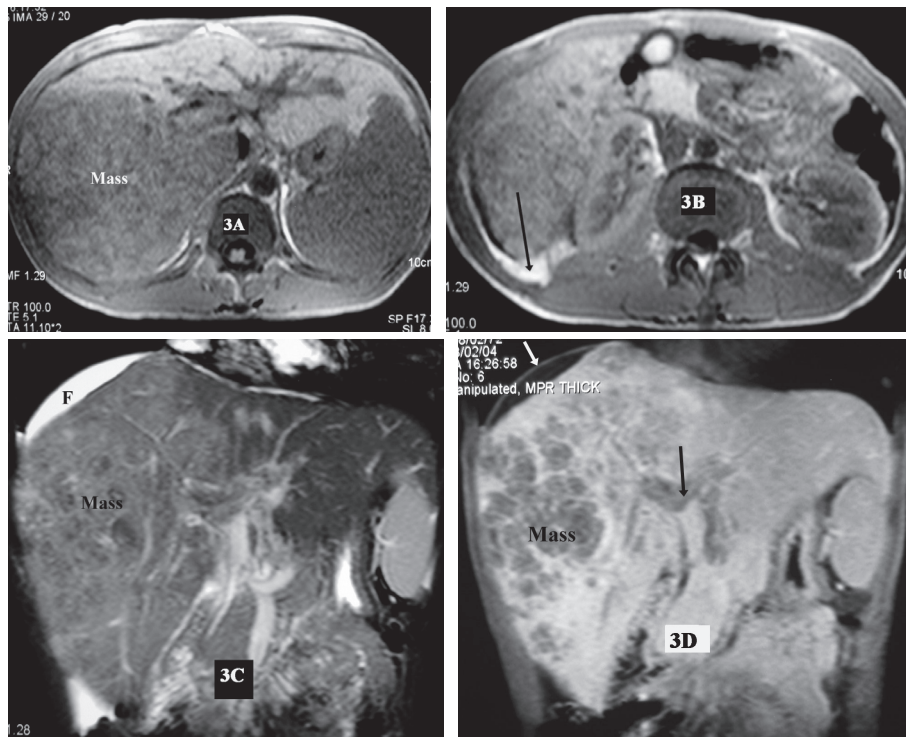


Figure 3 Ruptured HCC into the peritoneal cavity and subcapsular region in a 56-year-old man with underlying chronic hepatitis B.

A Axial T1W MRI shows a large low signal intensity mass occupying the entire right lobe liver.

B Axial T1W MRI at the hepatic tip reveals a high signal intensity free fluid indicative of blood within the peritoneal cavity.

C Coronal T2W MRI shows subcapsular hematoma (F) compressing the adjacent tumor-filled right lobe liver.

D Axial T1W with IV Gadolinium MRI shows enhancing Glisson capsule overlying the subcapsular hematoma (white arrow). Note invasion of right and left portal veins by the tumor (black arrow).

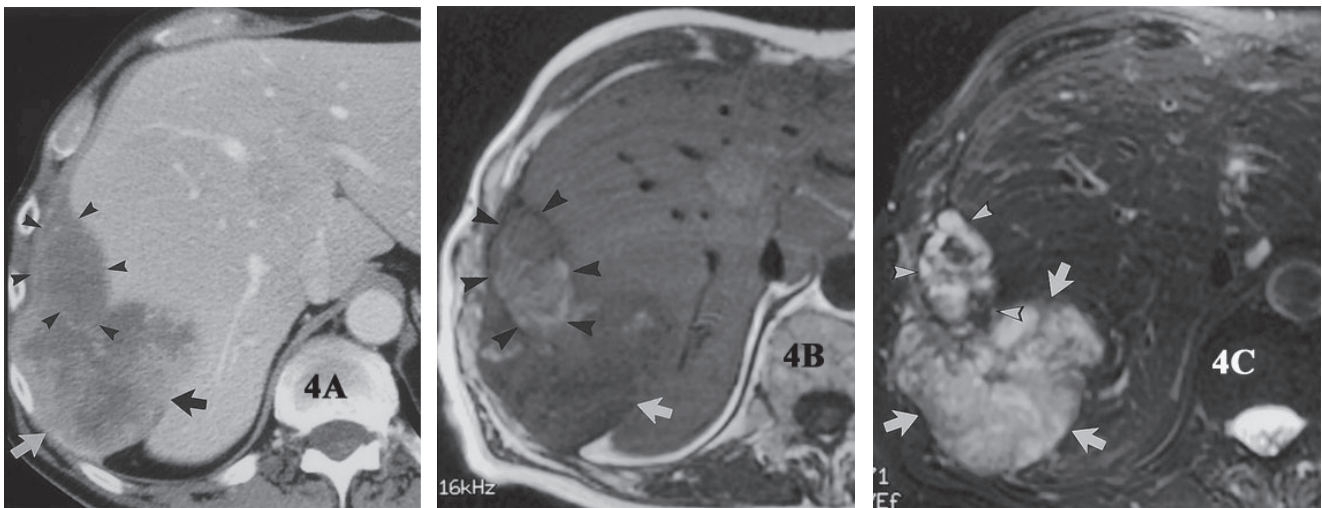


Figure 4 Ruptured angiosarcoma in a 67-year-old man. Angiosarcoma is a rare malignant tumor of the liver, but spontaneous bleeding is common.

A Contrast-enhanced CT shows a lobulated mass at right lobe liver (arrows) extending to the liver surface with rupture causing subcapsular hematoma (arrowheads).

B T1W MRI shows that tumor is predominantly of low signal intensity (arrow). Area of subcapsular hematoma appears to be high signal, characteristic of bleeding (arrowheads).

C T2W MRI reveals high signal intensity of both tumor (arrow) and subcapsular hematoma (arrowheads).

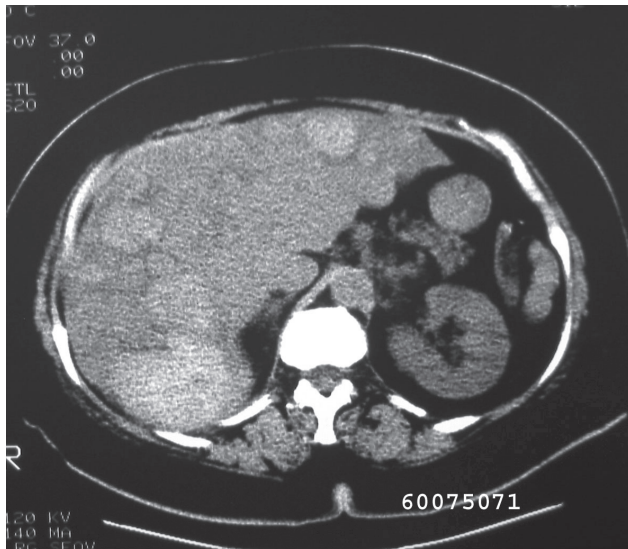


Figure 5 Spontaneous bleeding of metastatic liver tumors in a 59-year-old male with known carcinoid tumor of the small bowel. Plain CT shows multiple hyperdense masses of various sizes, which proved to be metastasis with bleeding.

that reported frequently include malignant melanoma, choriocarcinoma, renal cell carcinoma, lung cancer, breast cancer, neuroendocrine tumors and GI tract malignancies⁽³⁾.

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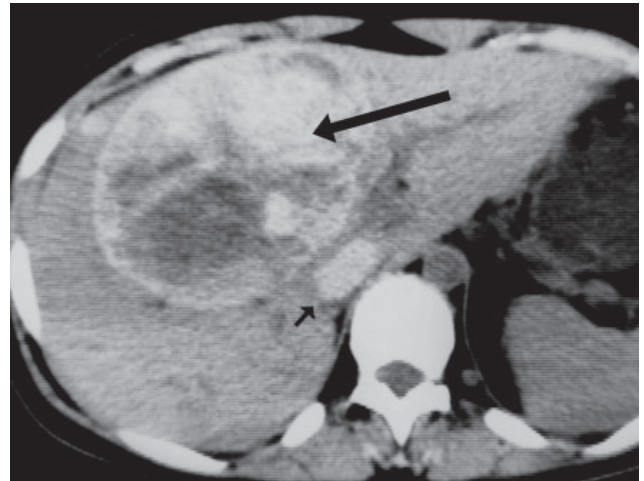


Figure 6 Hemorrhagic metastatic liver tumors, secondary to malignant melanoma. Plain CT shows a large hyperdense bleeding mass at anterior segment of right lobe liver (long arrow). Another smaller lesion is noted (short arrow) which also hyperdense secondary to bleeding.

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