## IMAGES IN SURGERY

## IMAGING RED FLAGS IN A Symptomatic abdominal Aortic Aneurysm

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The images belong to two patients who presented with abdominal pain and a palpable pulsatile mass. Both were hemodynamically stable and diagnosed with abdominal aortic aneurysm (AAA) in image workup. The most common sign of a ruptured AAA is an adjacent retroperitoneal hematoma. Acute hemorrhage typically appears as high-attenuating fluid ( $\geq$ 30 HU) near the psoas muscles [Figure 1(\*)], though lower attenuation values may occur in anemic patients. In Figure 2, a hyperattenuating crescent sign (\*) is visible in a saccular aneurysm on both contrast-enhanced

and unenhanced computed tomography (CT), indicating blood dissecting into the intramural thrombus (IMT) from the aortic lumen—an acute hematoma, a specific early sign of rupture. Blood dissection into the IMT can also appear as thrombus fissuration (Figure 1), shown as linear contrast infiltrations (arrowhead) within the hypodense IMT. Missing intramural and extraluminal signs of impending or complete abdominal aortic aneurysm (AAA) rupture can cause delays and significantly impact patient management and prognosis.



Figure 1

Abdominal aortic aneurysm with signs of acute hemorrhage.



Figure 2

Abdominal aortic aneurysm showing signs of impending rupture.