

# VASCULAR CAUSES OF ABDOMINAL PAIN: PICTORIAL REVIEW

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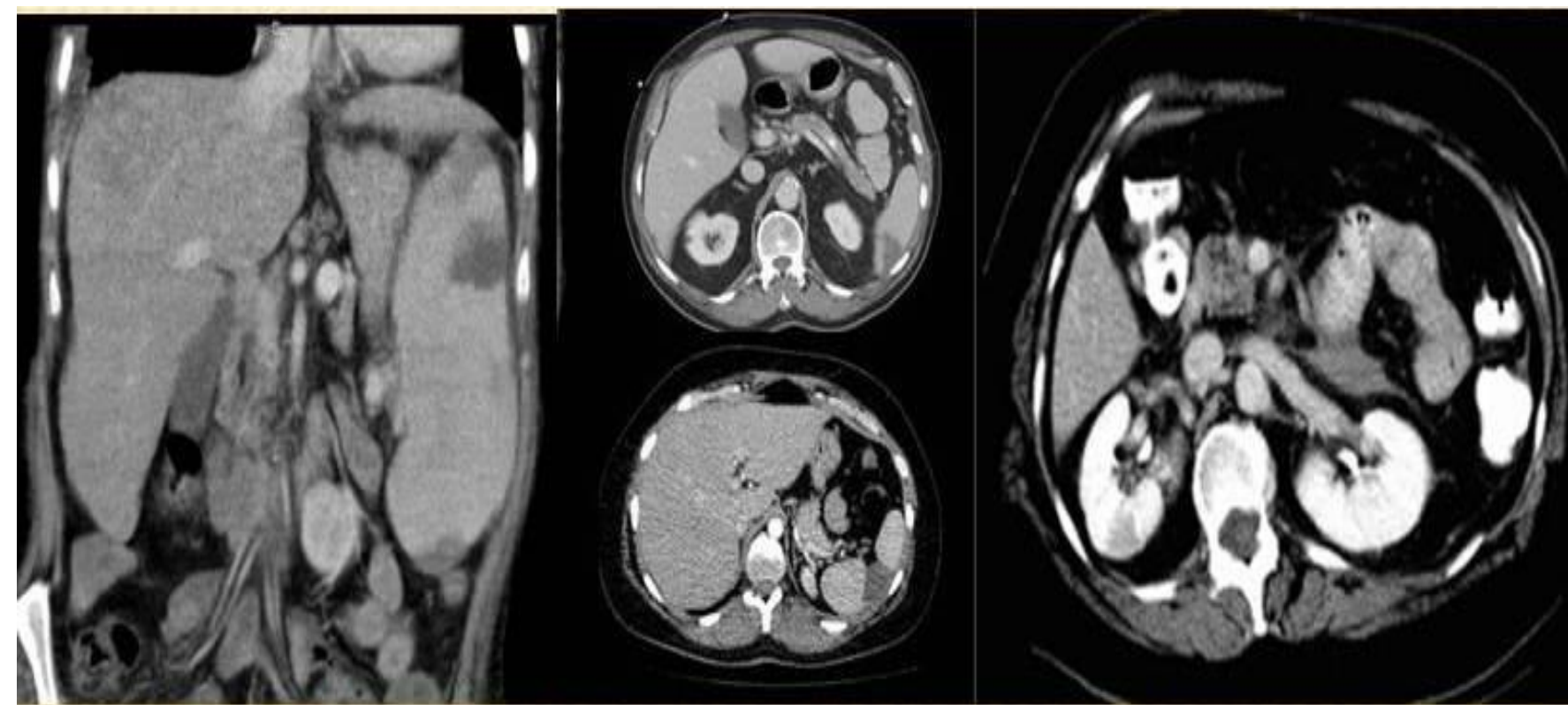
## ARTERIAL CAUSES

Acute abdomen is one of the commonest presentations at the emergency department. In addition to the usual causes of abdominal pain, a variety of vascular causes present as an acute abdomen

Rapid imaging and diagnosis is required to prevent morbidity and mortality. Venous and arterial diseases need to be differentiated.

Arterial causes include leaking abdominal aortic aneurysms, aortic dissection, aorto-caval fistula; vascular compression of the bowel loops, large vessel ( Takayasu's arteritis) medium and small vessel disease; arterial compromise of major viscera including the intestines.

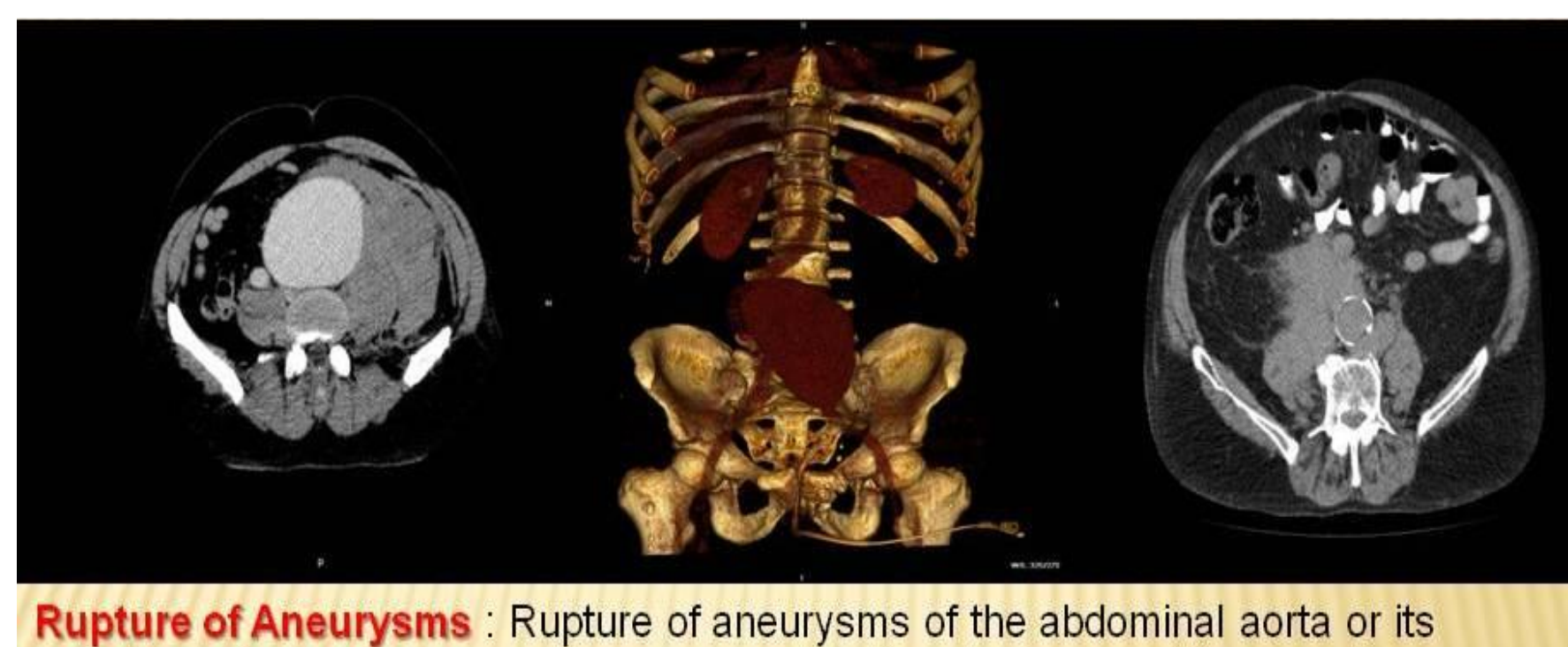
Venous pathology includes thrombotic occlusion of portal, mesenteric, ovarian and vena cava ( including thrombosis of both veins in IVC duplication )



**Splenic & Renal infarct** : Can be segmental or global ; wedge shape; multiple if secondary to emboli



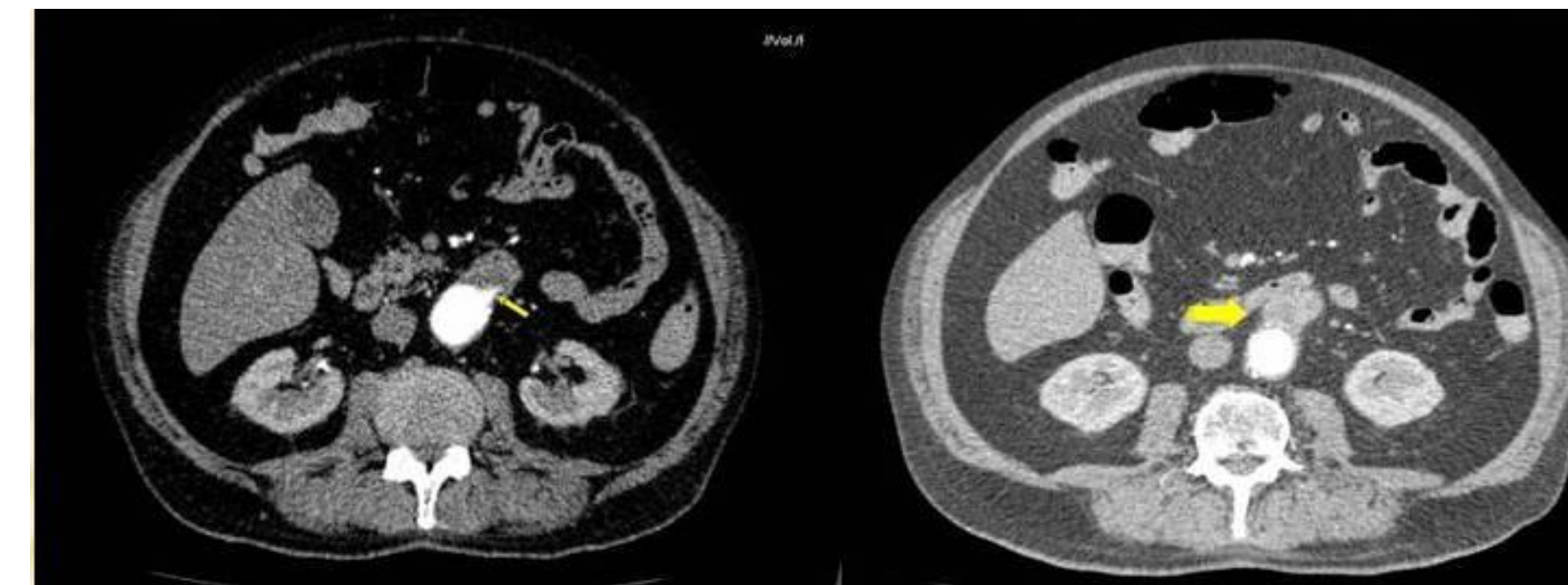
**Aortic Dissection**: Acute pain presentation. Can involve the whole or isolated to thorax or abdomen. Male predominance. Early diagnosis and intervention is important



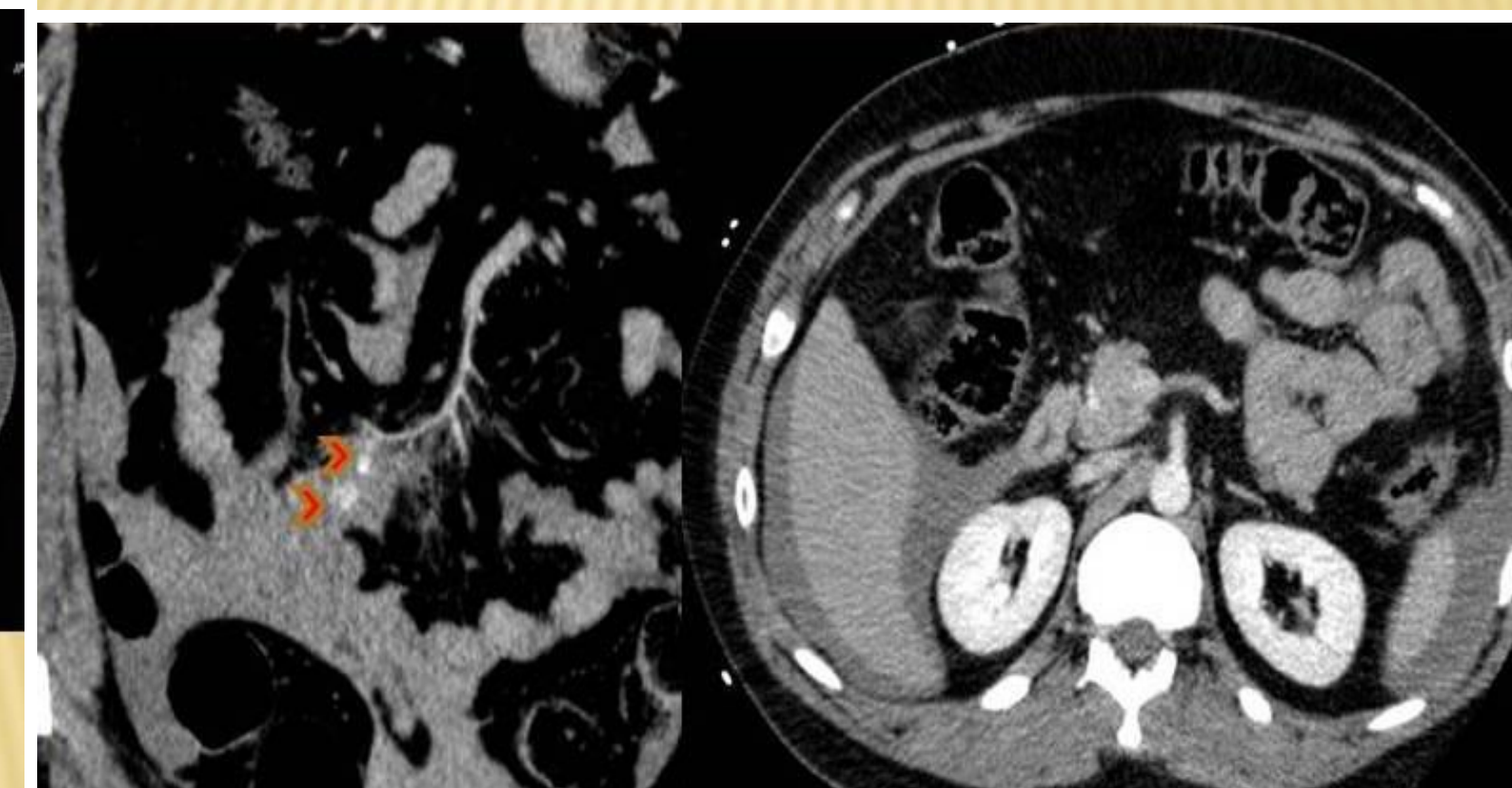
**Rupture of Aneurysms** : Rupture of aneurysms of the abdominal aorta or its main branches ( left common iliac artery) are life-threatening conditions ; active leak of contrast can be seen on CT; chronic leaks can also occur.



**Aorto-caval fistula** is an unusual complication of ruptured abdominal aortic aneurysm involving less than 3-6% of all ruptured cases

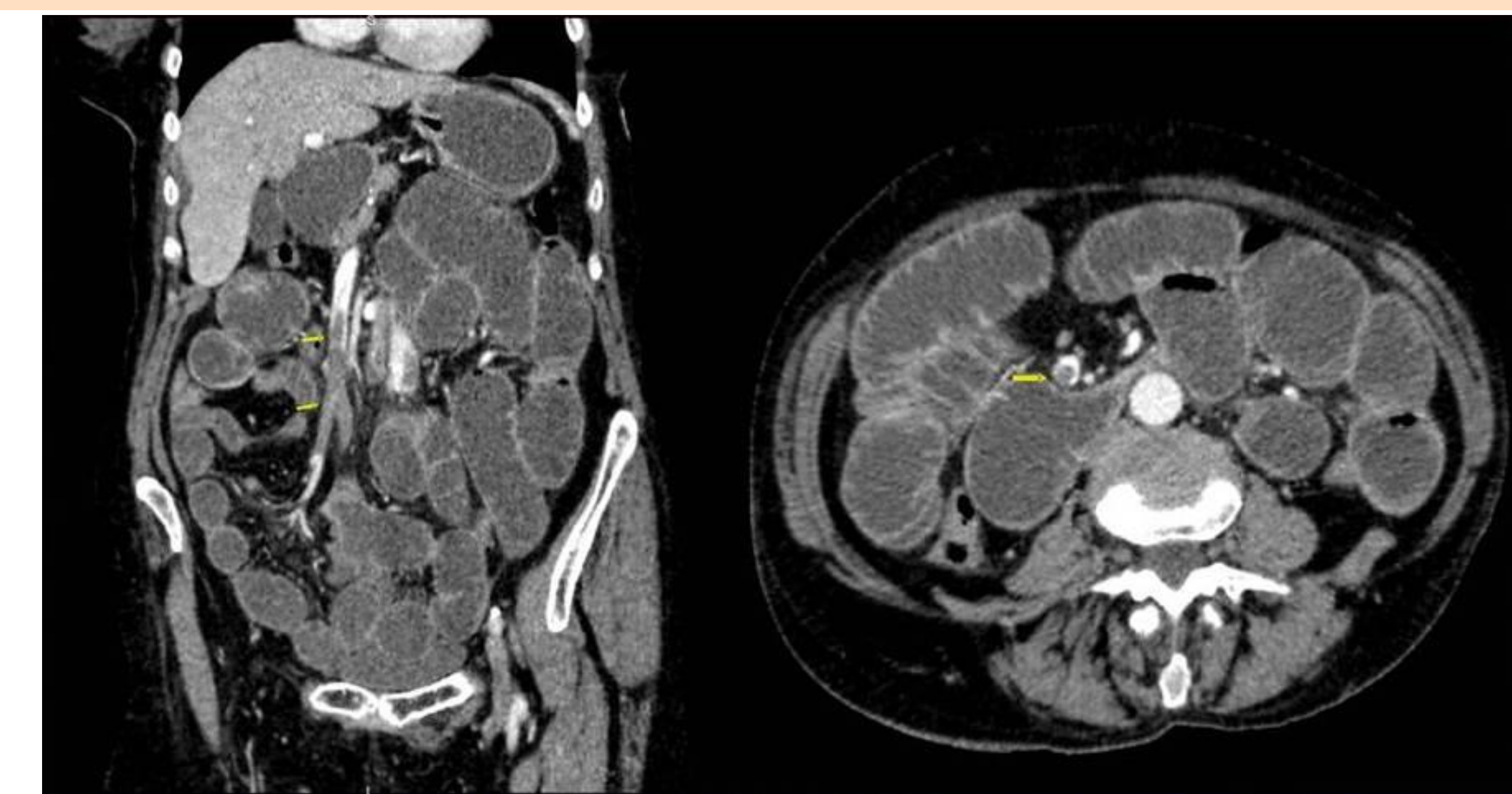


**Aorto-enteric fistula** : Aortoenteric fistulas are life-threatening conditions .Primary aorto-enteric fistulas-- rare and almost always associated with a preexisting aortic aneurysm. Secondary aortoenteric fistulas --as complications of aortic reconstructive surgery with or without an aortic stent-graft

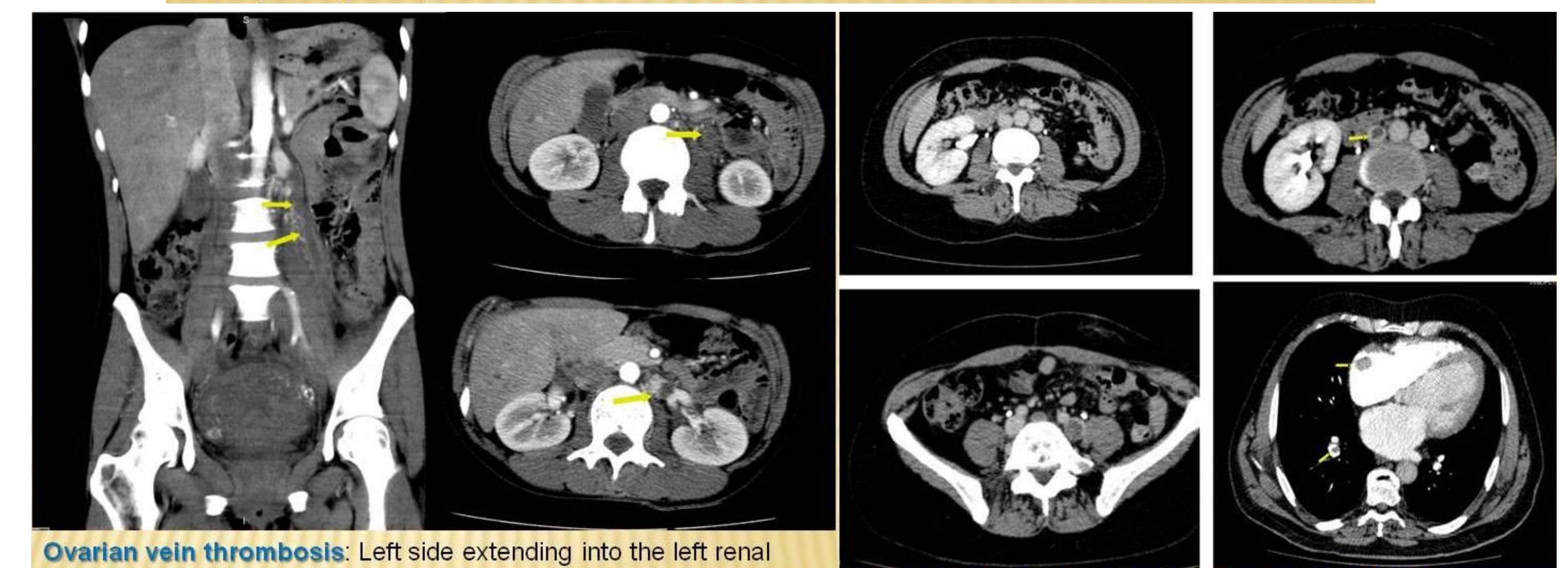


**Vascular Injury** : Post traumatic vascular injury with active leak of contrast and free fluid ( haemorrhage) in the abdomen

## VENOUS CAUSES



**Superior mesenteric vein thrombosis**: Large segment of the SMV thrombus & Seen in approximately 5-15% of all cases. Majority are idiopathic; Hypercoagulable states, such as neoplasm, polycythemia vera, protein C and protein S deficiency, antithrombin III deficiency, and abdominal surgery, are the other predisposing factors



**Ovarian vein thrombosis**: Left side extending into the left renal vein following recent pelvic surgery. Thrombosis can occur in post partum period & Other conditions that are associated with hyper coagulability, such as recent surgery, malignancy

**Duplication of the IVC with thrombus in both veins**: Uncommon anomaly; Very rare to develop thrombus in both veins

Vascular ( arterial and venous) causes can present with acute abdominal pain. With proper clinical information and high clinical suspicion CT scans can be tailored accordingly. Multiphasic imaging may be needed to diagnose venous bleed and venous thrombosis

Modern fast CT scanners with multiphasic imaging protocols are excellent tool for diagnosis, and can help in image guided intervention