

## Aortocaval Fistula

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**Section:** Abdominal imaging

**Imaging Technique:** CT

**Imaging Technique:** CT

**Case Type:** Clinical Cases

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**Patient:** 51 years, male

### Clinical History:

The synchronous enhancement of the aorta and inferior vena cava (IVC), the dilatation of the lower IVC, and the demonstration of a communication between the aortic lumen and that of the IVC are the keys of the diagnosis of aortocaval fistula.

### Imaging Findings:

A patient was admitted with a painful abdominal mass and dyspnea.

Contrast enhanced CT scans of the abdomen, sections at various levels includes a section beyond the level of the renal veins which shows a synchronous and intense enhancement of aorta (white arrow) and inferior vena cava (black arrow). Section at a lower level, (through the iliac crest, 9 cm downward to A) shows aneurysmal dilatation of the aorta (white arrow) and communication between the aortic lumen and the laminated inferior vena cava (black arrow). Section at a more caudal level (through the iliac wings, 5 cm downward to A) shows dilatation and pronounced enhancement at the lumen of the inferior vena cava (black arrow) and pelvic veins.

Abdominal CT scan, reconstruction in a coronal plane through aorta and inferior vena cava demonstrates the aortic aneurysm (white arrow) and aortocaval fistula (black arrow). The site of communication between the lumina is indicated by the cross.

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### Discussion:

Aortocaval fistula is a rare complication of abdominal aortic aneurysm, involving less than 1% of all abdominal aortic aneurysms. The diagnosis is difficult, and preoperative identification may be challenging. Newonset angina, dyspnea, anasarca, and intractable congestive heart failure are the possible presenting signs. In the abdomen, pain is the major symptom, and is accompanied by a systolo-diastolic murmur and hematuria. Associated peripheral cyanosis and venous pulsation in the accessible proximal veins of the lower extremity, possible paralysis of the legs, and priapism, afford strong supporting evidence of aortocaval fistula. Early synchronous and equivalent enhancement of the IVC and aorta, dilatation of IVC and pelvic veins are characteristic signs for the CT diagnosis. However, direct demonstration of the fistula by CT or MRI, as in the presented case, is rare. Since CT scan is often the initial imaging method in the evaluation of suspected complications of abdominal aortic aneurysm, especially rupture of the aneurysm, it is important to be aware of this uncommon complication that may be detected by CT scan.

**Differential Diagnosis List:** Aortocaval fistula

**Final Diagnosis:** Aortocaval fistula

**References:**

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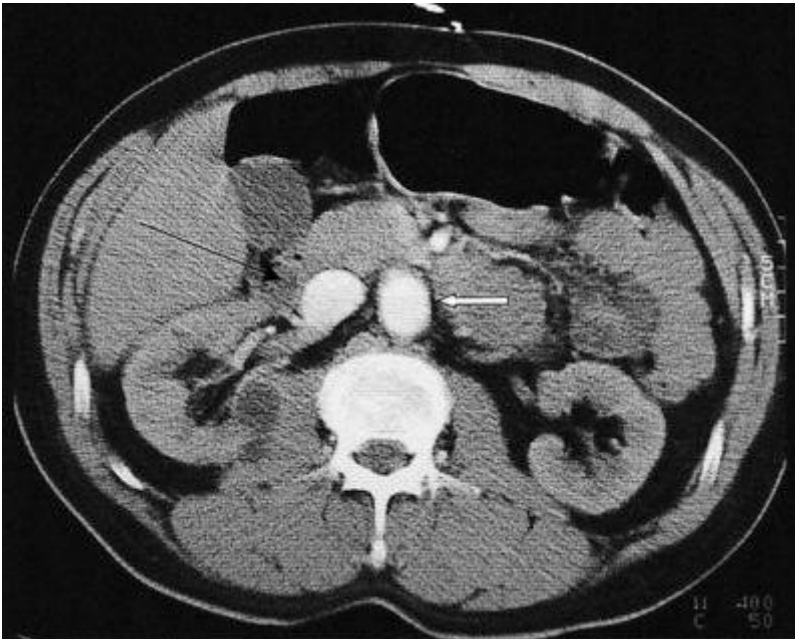
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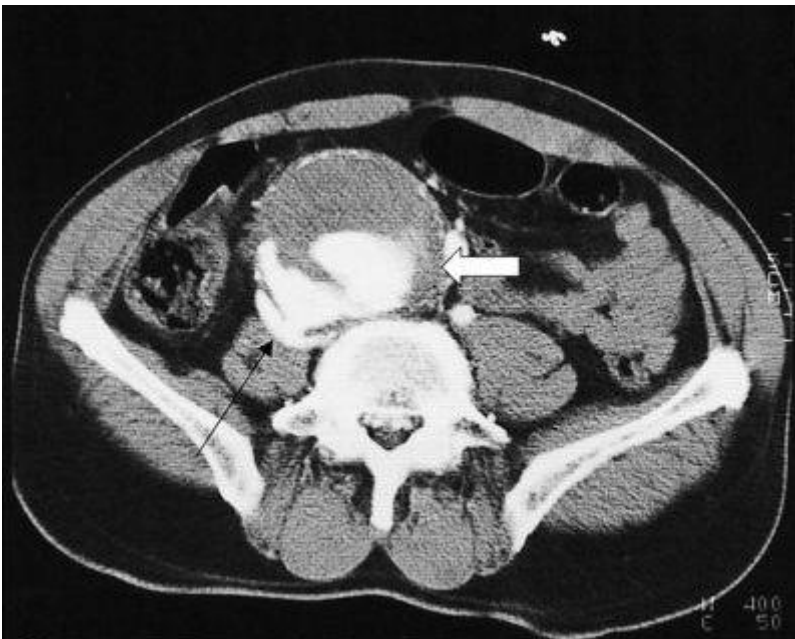
**Figure 1**

**a**



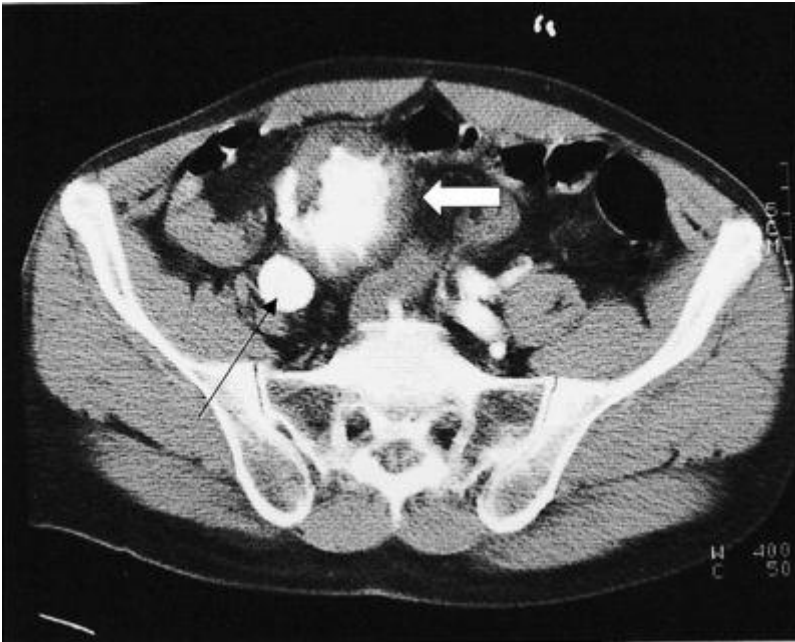
**Description:** includes a section beyond the level of the renal veins which shows a synchronous and intense enhancement of aorta (white arrow) and inferior vena cava (black arrow). **Origin:**

**b**



**Description:** Section at a lower level, (through the iliac crest, 9 cm downward to A) shows aneurysmal dilatation of the aorta (white arrow) and communication between the aortic lumen and the laminated inferior vena cava (black arrow). **Origin:**

**C**



**Description:** Section at a more caudal level (through the iliac wings, 5 cm downward to A) shows dilatation and pronounced enhancement at the lumen of the inferior vena cava (black arrow) and pelvic veins. **Origin:**

**Figure 2**

a



**Description:** reconstruction in a coronal plane through aorta and inferior vena cava (fig. 2) demonstrates the aortic aneurysm (white arrow) and aortocaval fistula (black arrow). The site of communication between the lumina is indicated by the cross. **Origin:**