

## Unilateral isodense subdural hematoma

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**Section:** Neuroradiology

**Imaging Technique:** CT

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**Case Type:** Clinical Cases

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**Patient:** 62 years, male

### Clinical History:

Recurrent confusion. No history of trauma.

### Imaging Findings:

One week prior to admission had an episode of confusion that resolved without neurological deficit. On the day of admission he had increasing headache and confusion. No history of trauma. Not taking any medications. On examination, a right sided facial weakness was noted.

### Discussion:

Subdural hematoma (SH) can be acute (usually hyperdense on CT), subacute (1-2 weeks after injury, isodense) and chronic (3-4 weeks after injury, usually hypodense). Up to 50% of subacute and chronic hematomata do not have a history of trauma. An acute subdural hematoma can appear isodense in anemia and clotting disorders. A chronic SH may appear isodense on CT due to recurrent acute bleeds. True isodensity is rare. High resolution images will usually show slightly abnormal attenuation with the SH. The separation of isodense collections into hypodense serum anteriorly and hyperdense blood posteriorly is enhanced if the patient supine for at least 30 minutes before the study. CT detection of isodense SH relies on effacement of sulci, ipsilateral ventricular compression, displacement of the grey-white matter away from the ipsilateral inner table and, in unilateral SH, midline shift. Intravenous contrast enhances the inner table and the cortical-subdural interface. Magnetic Resonance (MR) is the imaging modality of choice. In subacute SH it shows as a bright lesion on T1 due to the high sensitivity to met hemoglobin. Small subdural hematomata oriented in the CT plane e.g. tentorial subdurals may be missed on CT but are detected on MR.

**Differential Diagnosis List:** Subacute right subdural hematoma

**Final Diagnosis:** Subacute right subdural hematoma

### References:

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Unusual manifestations of head trauma.

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Detecting bilateral isodense subdural hematomas.

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**Figure 1**

**a**



**Description:** There is prominent transfalx herniation (midline shift) to the left with no apparent cause and moderate peri ventricular oedema or ischemia on the left. Note ring artefact (concentric circles seen throughout the image), a technical problem caused by CT detector miscalibration. **Origin:**

**Figure 2**

**a**



**Description:** There are multiple small cerebral contusions and a small extradural hematoma in and around the right parietal lobe. Note again the loss of white matter around the left lateral ventricle, the midline shift and the ring artefact. **Origin:**

**Figure 3**

a



**Description:** Note midline shift, effacement of sulci and ipsilateral ventricular compression. Intravenous contrast enhances the inner table and the cortical-subdural interface. This is a feature of an isodense subdural hematoma. **Origin:**

**Figure 4**

**a**



**Description:** Note midline shift, effacement of sulci and ipsilateral ventricular compression, other features of isodense unilateral subdural hematoma. **Origin:**

**Figure 5**

**a**



**Description:** Note the small hemorrhage on the right and the disproportionate midline shift to the left.

**Origin:**