

## Coup-Contrecoup Brain Injury: Clinical Images

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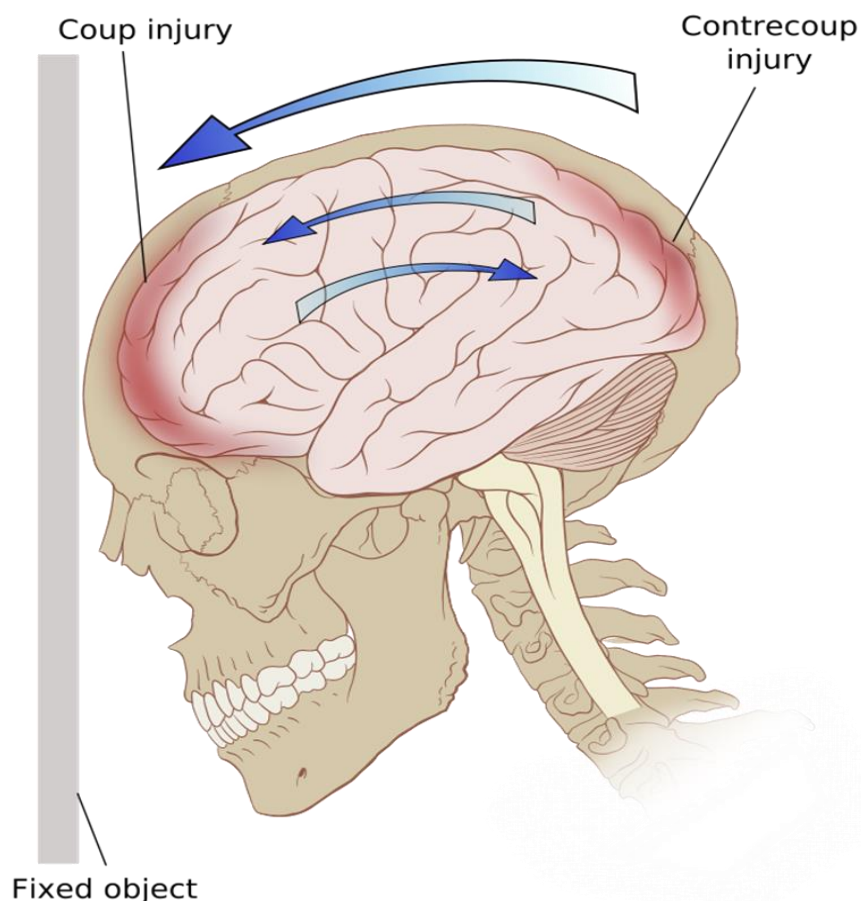
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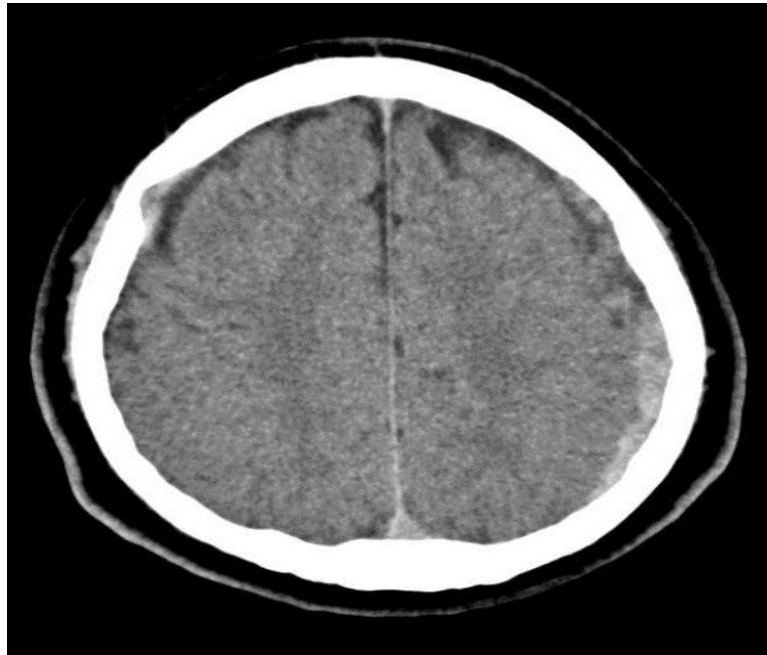
**Key words:** Coup-Contrecoup Brain Injury; Contrecoup Brain Injury; Traumatic Brain Injury; Computed Tomography; Clinical Image.

Coup-Contrecoup Brain Injury is when a part of the brain is injured and the opposite part of the brain deaccelerates and hits the inner table of the skull see (Fig. 1). This is a case of a Coup-Contrecoup Brain Injury in a 17-year-old male patient. The trauma targeted the right frontal lobe and the left parietal lobe was affected by the trauma see (Figs. 2 and 3). The patient was unstable and shifted to a tertiary hospital.

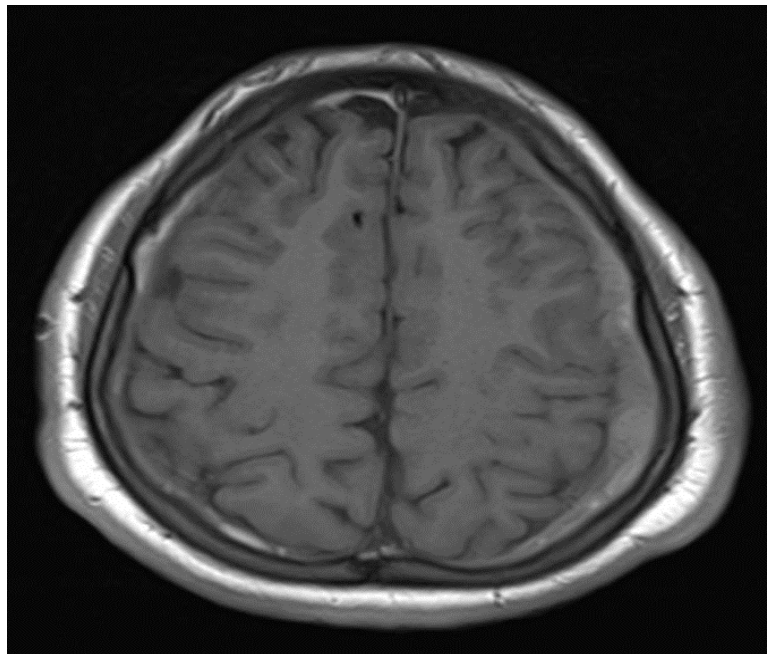
Coup-contrecoup brain injuries were studied in two Indian studies [1, 2], one for 74 patients over the course of one year. The other paper studied 298 patients over a 2-year period. The first study showed that contrecoup contusion leads to a poor prognosis [1]. The second study showed that there is a difference in mortality between coup-contrecoup injuries and contrecoup injuries [2].



**Fig 1:** An illustration of coup-contrecoup mechanism.



**Fig 2:** An axial brain CT shows bilateral Crescentic shape extra-axial blood densities are seen smeared all over both hemispheres subdural in location being more on the right side, they exert mass effect manifested by effacement of the underlying cortical sulci. Measuring (10x1 cm) on left side and measuring (4x0.5 cm) on right side. Notice the arachnoid granulation thinning the skull on the right side which is an anatomical variant.



**Fig 3:** An axial MRI T1 shows bilateral (More left sided) frontoparietal convexity mild subdural hematoma. It appears of intermediate signal at T1 and predominantly bright signal at T2 and FLAIR with some hypointense /signal void streaks seen within. Maximal thickness at the right side is up to 6-7mm and at the left side is up to 11-12mm. Trans midline slight shift of about 3 mm to the right side. MRI features are that of (hyperacute) to (acute) stage.

### References

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2. Banga MS, Sandeep BV, Roy K, Saha SK, Dixit S, Ghosh P. Contrecoup head injury. *Indian Journal of Neurosurgery*. 2017 Aug;6(02):103-6.