Ring artefacts in cranial CT

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DESCRIPTION

A ring or arc artefact in a CT is a hardware related artefact that occurs due to a defective or miscalibrated detector. It is more common with third-generation CT scanners with solid-state detectors. It appears as complete circles (sequential scans), annular rings (multiple circles) or partial rings (helical/multislice CT) at the same spot near the isocentre in multiple sections.[1 2] Recognising this artefact is important as it may be subtle and misinterpreted as a pathological entity by the novice clinician.[3] This artefact is usually more clearly visualised in the soft-tissue window of CT scans (video 1) than in the bone window (video 2).

Presented here is a case where an arc artefact was noted in the CT made for the evaluation of facial fractures (figure 1, videos 1 and 2). The artefact posed no diagnostic challenge as it exhibited the characteristic features for easy identification and was away from the region of interest.

Video 1 Serial sections of the scan (soft-tissue window) showing ring artefact.

Video 2 Serial sections of the scan (bone window) showing ring artefact.

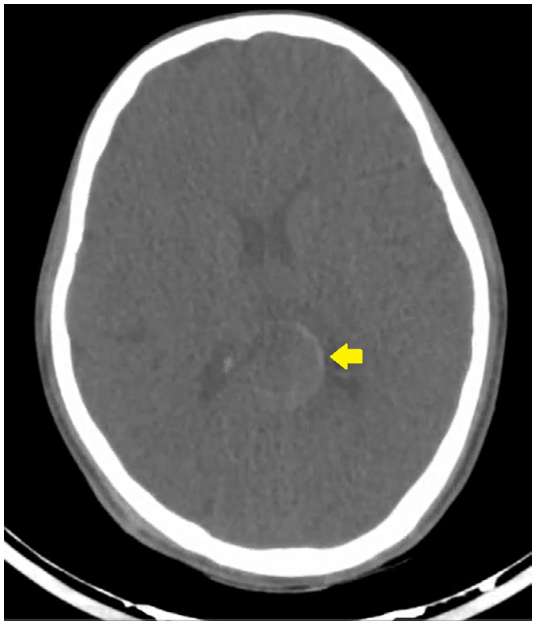

Figure 1 Axial section of scan showing the ring artefact (yellow arrow).

Learning points

- Ring artefacts in CT appear as complete circles, annular or partial rings in multiple slices.
- They occur due to a defective or miscalibrated detector in CT hardware.
- Key to identification is the occurrence of smooth circular artefacts near the isocentre in sequential scans.

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