Case	(547) Blunt post-traumatic internal carotid artery dissection:
Authors	M. Gredilla Saenz, M. Leturia Etxeberria, A. Serdio Mier, G. Arenaza Choperena, V. Gomez Usabiaga, A. Ugarte Nuño.
Centre	Hospital Universitario Donostia.

CASE PRESENTATION

25 year old woman with no medical record brought into the emergency room after a traffic accident. At the arrival she is sedated and intubated; she presents with a GCS 6, unreactive miotic pupils and does not respond to painful stimulus.

A whole-body CT, including arterial phase of head and neck is performed, observing subarachnoid hemorrhage (SAH) and diminution of the calibre of the distal extra-cranial segment of the right internal carotid artery (ICA) from C2 to C4, with a greater stenosis degree at the lateral process of C2, where it shows an irregular lumen; recovering afterwards its normal calibre.

The patient was, therefore, diagnosed of a post-traumatic ICA dissection with SAH. In subsequent controls, patient exhibits radiological deterioration, showing greater stenosis of right ICA and diffuse axonal lesion, detected on MR. Following this worsening, patient began to improve radiological and clinically.

DISCUSSION

ICA dissection following blunt trauma is a rare event accounting for 0.08-0.4% of all traumatic lesions. Their high morbidity/mortality associated to secondary strokes and the variable latent period before symptom onset make recognition and early diagnosis essential.

CT and CTA are nowadays the main diagnostic techniques, being Digital Substraction Angiography (DSA) relegated to rare cases, in which CTA is non-conclusive and to patients that will undergo endovascular intervention.

A wide spectrum of traumatic lesions can affect the ICA, ranging from minor lesions (spasm, intimal tear or mural contusions) to more serious ones (pseudo-aneurysm and complete occlusion). Secondary embolisms have devastating effects because of the ischemic stroke they may cause.

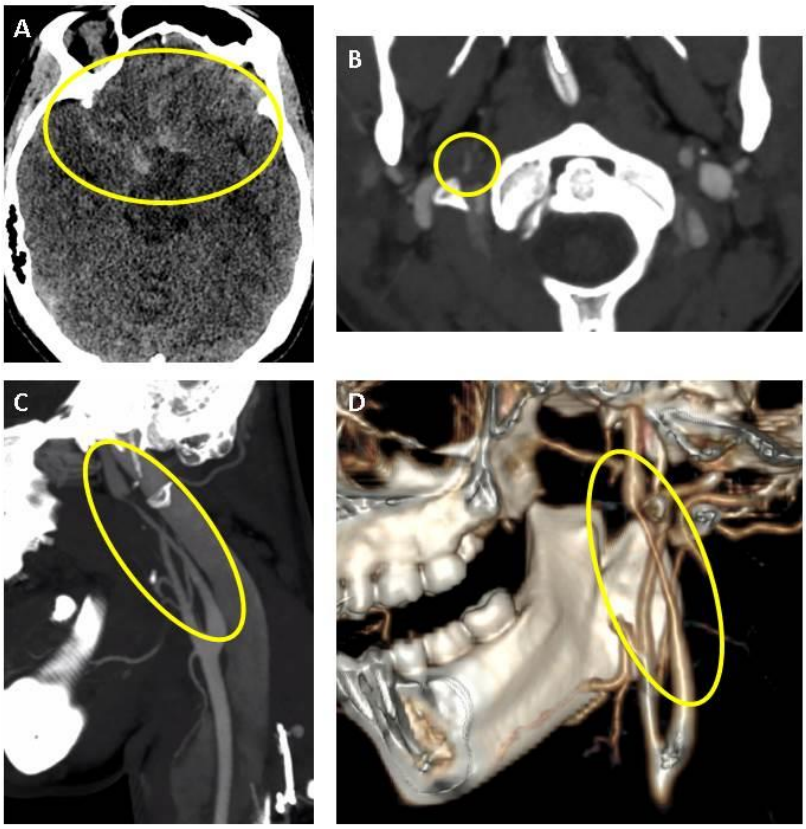
While common carotid artery (CCA) lesions are very frequent in penetrating trauma, carotid lesions secondary to blunt-trauma affect carotid bifurcation and ICA, being the carotid bifurcation, petrous, cavernous and supraclynoid ICA the most frequent sites of lesion, depending on the mechanism; direct trauma affects carotid bifurcation, whereas hyperextension or rotation mechanisms will affect ICA by stretching it against the upper cervical vertebrae.

ICA dissection can be focal or involve a long segment, with minimal to nearly occlusive luminal narrowing, which may associate increased overall arterial diameter due to

intramural hematoma. It is generally seen on axial images, although display in other planes may be needed to appreciate the full length and complexity of the injury.

CONCLUSION

CT and CTA are the imaging techniques of choice for blunt-traumatic ICA dissection diagnosis, a rare lesion with high morbidity and mortality rates; what makes early diagnosis imperative, to minimize secondary adverse effects.



BIBLIOGRAPHY

- GeorgeE, KhandelwalA, PotterC, SodicksonA, MukundaS, NunezD, KhuranaB. Blunt traumatic vascular injuries of the head and neck in the ED. Emergency Radiology. 2018 Aug; 26(1):75-85.

- RutmanAM, VranicJE, Mossa-BashaM. Imaging and Management of Blunt Cerebrovascular Injury. Radiographics. 2018 Mar; Vol 38, No2.