Case	(396) Spontaneous dissection of the internal carotid artery with stroke: a case report.
Authors	B. Fernández Gordillo, J. Pérez Tejada, D. Calvo Gijón, S. Rico Gala, A. Cáceres Valverde.
Centre	Department Of Radiology, Hospital Universitario Virgen De Valme.

CASE PRESENTATION

A 41-year-old man arrived at the emergency department with aphasia and right-sided hemiparesis being diagnosed with wake-up stroke. Two hours before going to sleep, he referred a headache that he attributed to his migraine, with no history of trauma.

Noncontrast brain CT, CT perfusion and CT angiography of the supra-aortic trunks and Willis' circle were performed. Radiological findings were found in relation to acute cerebral ischemia in the left middle cerebral artery (MCA) territory, perfusion mismatch of 90% hypoperfused affected tissue, left M2 occlusion and left internal carotid artery (ICA) occlusion compatible with carotid dissection.

Arteriography was performed to confirm this diagnosis and after confirmation of the diagnosis endovascular treatment was started with successful thrombectomy in the left ICA and non-successful in the left MCA. At hospital discharge slight disability persisted.

DISCUSSION

Spontaneous ICA dissection is the cause of strokes in young and middle-aged patients in up to one-fourth of cases. As any dissection, it is due to the entry of blood between the layers of the vessel wall, usually through an intimal tear, affecting the extracranial segments more frequently than the intracranial segments.

It occurs spontaneously, traumatically or iatrogenic. Its clinical manifestations are mostly nonspecific, so radiological images are of great relevance. Strokes occur in 40-60% and transient ischemic attacks in 20-30% of the cases. Other possible complications include subarachnoid haemorrhage and the development of a dissecting aneurysm (1).

The emergent study of the patient with neurological symptoms and suspicion of carotid dissection must include 1) Non-contrast brain CT 2) CT perfusion according to the evolution time to determine the extension of the ischemic penumbra, and 3) CT angiography of the supra-aortic trunks and Willis' circle.

Arteriography will be performed in subsidiary cases of endovascular treatment and when CT angiography is inconclusive. MRI and/or carotid Doppler will be done during the follow-up (2).

CONCLUSION

Although it is an infrequent entity, the ICA dissection is one of the main causes of stroke in young people. Considering that its clinical presentation is frequently nonspecific,

radiologists play an important role on the diagnosis and treatment, which must necessarily be early.

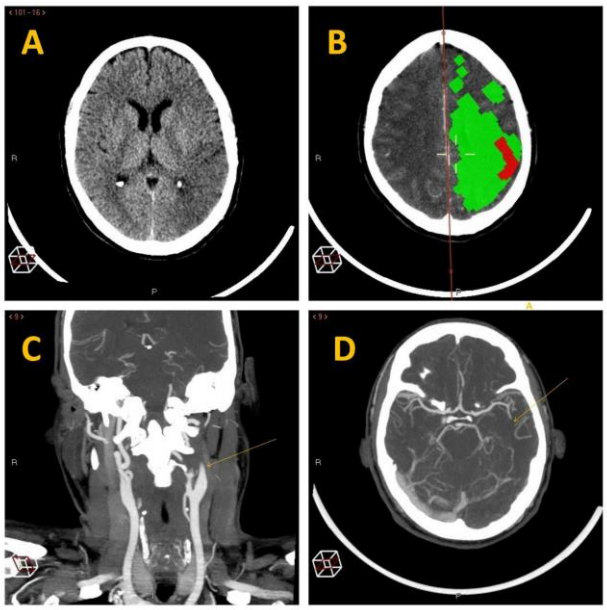

Fig. 1: A) Unenhanced brain CT shows a hypoattenuated area in the left middle cerebral artery territory, meaning acute ischemia B) Perfusion mismatch with 90% hypoperfused affected tissue (green) C) CT angiography shows flame-shaped occlusion of the proximal left internal carotid artery compatible with dissection of this vessel (arrow). D) Occlusion of the left M2 segment (arrow).

BIBLIOGRAPHY

- Rodallec MH, Marteau V, Gerber S, Desmottes L, Zins M. Craniocervical Arterial Dissection: Spectrum of Imaging Findings and Differential Diagnosis. Radiographics. 2008; 28 (6): 1711-28.

- Ben Hassen W, Machet A, Edjlali-Goujon M, Legrand L, Ladoux A, Mellerio C, et al. Imaging of cervical artery dissection. Diagn Interv Imaging. 2014; 95 (12): 1151-61.