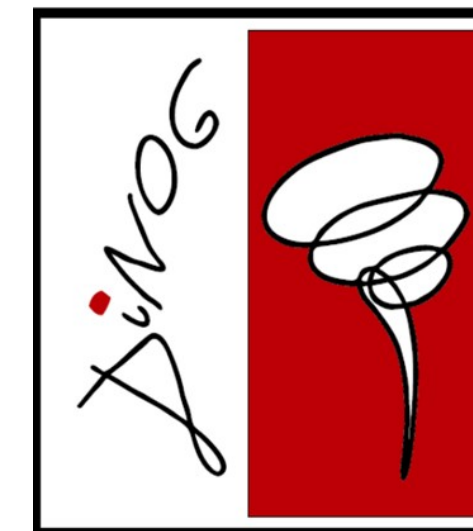




ISOLATED HYPOGLOSSAL NERVE PALSY: HAVE YOU STUDIED THE CAROTID ARTERY?



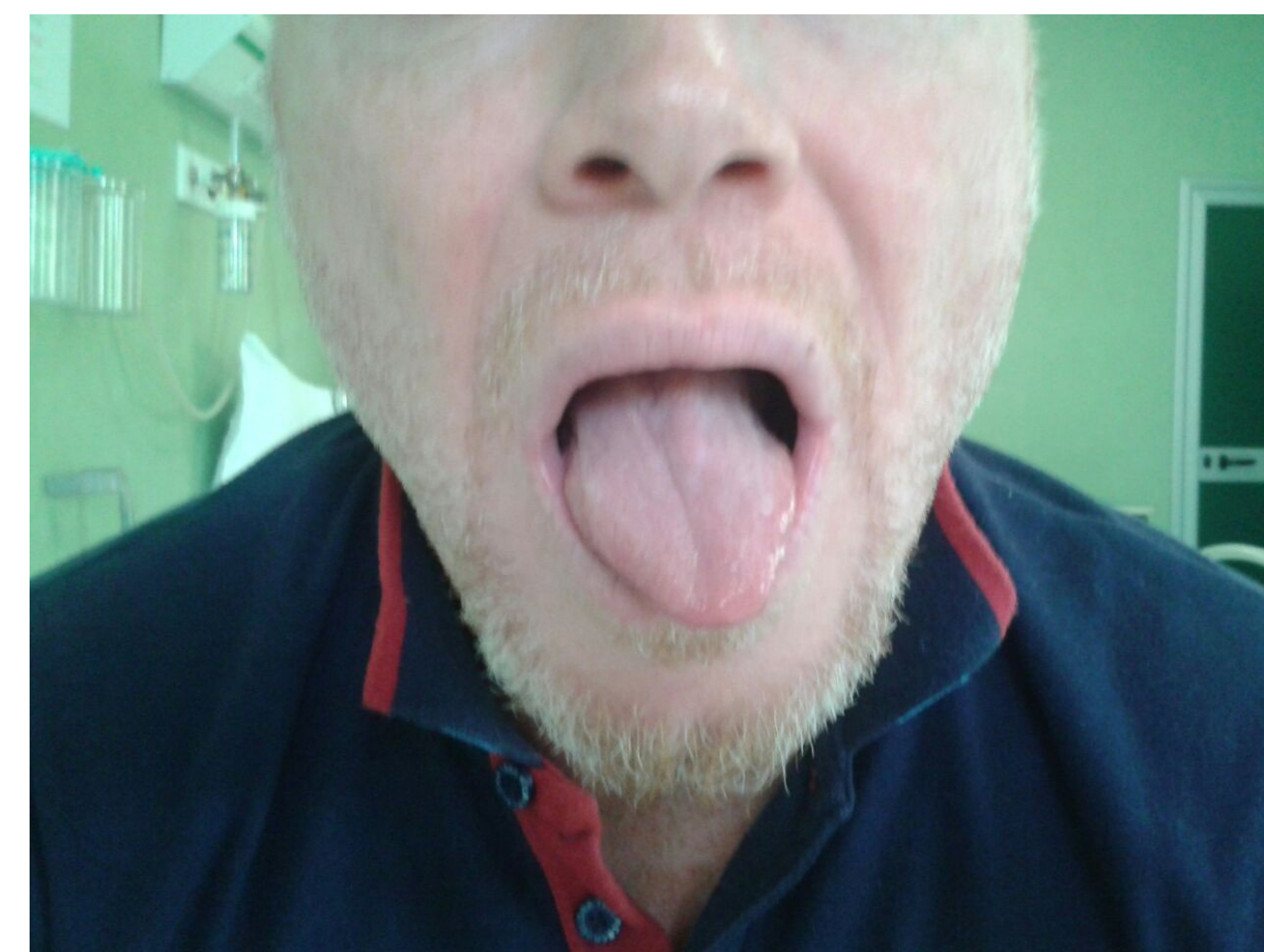
Cabona C.¹, Cellerino M.¹, Capello E.¹, Saitta L.², Mancardi G.L.¹

Purpose of work:

The aim of this study is to focus on an unusual cause of isolated hypoglossal nerve paralysis - the dissection of the internal carotid artery (ICA) - through the description of a clinical case. In this case the XII cranial nerve deficit is mechanically determined by the contact between the dissected vessel and the nerve itself at the carotid space level.

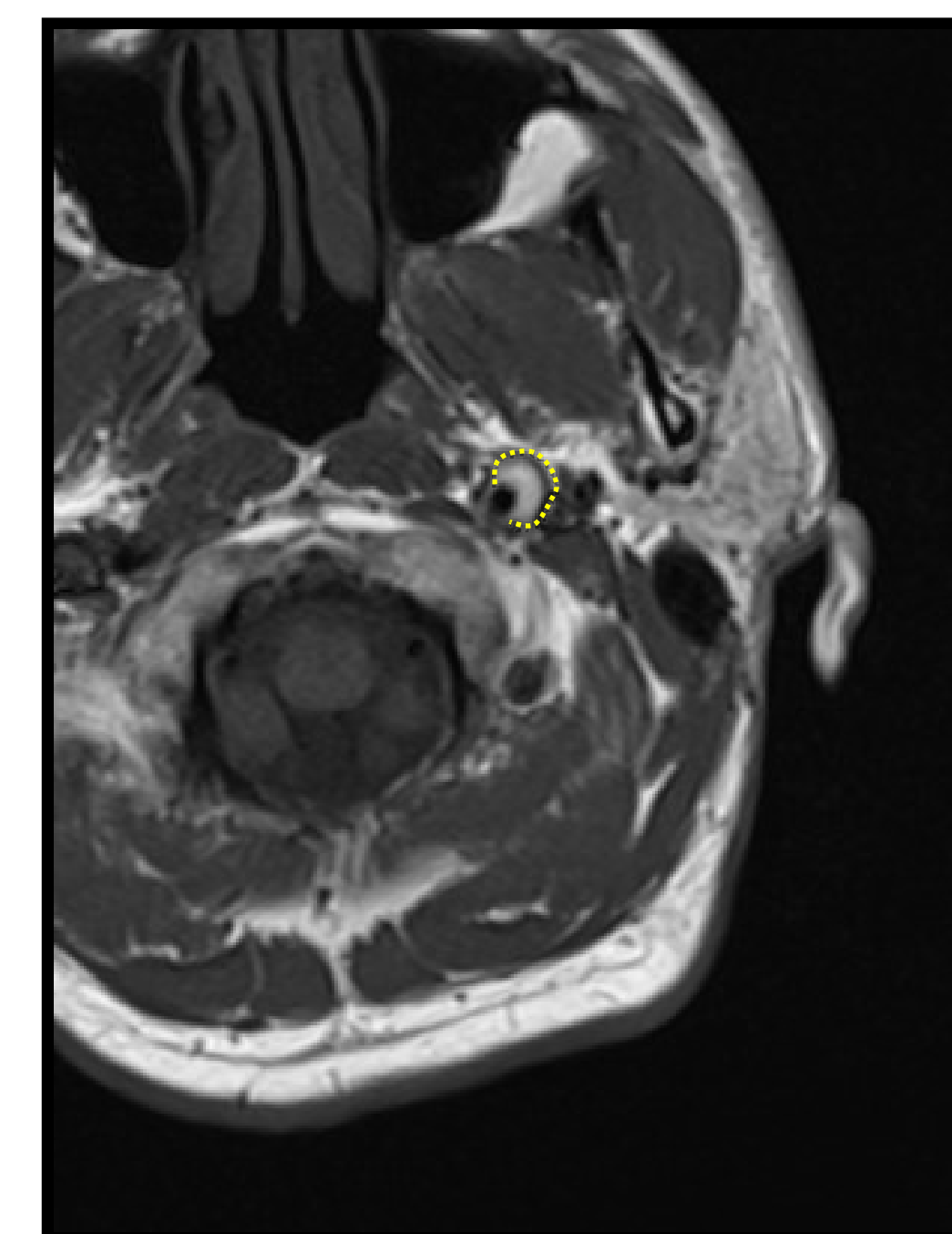
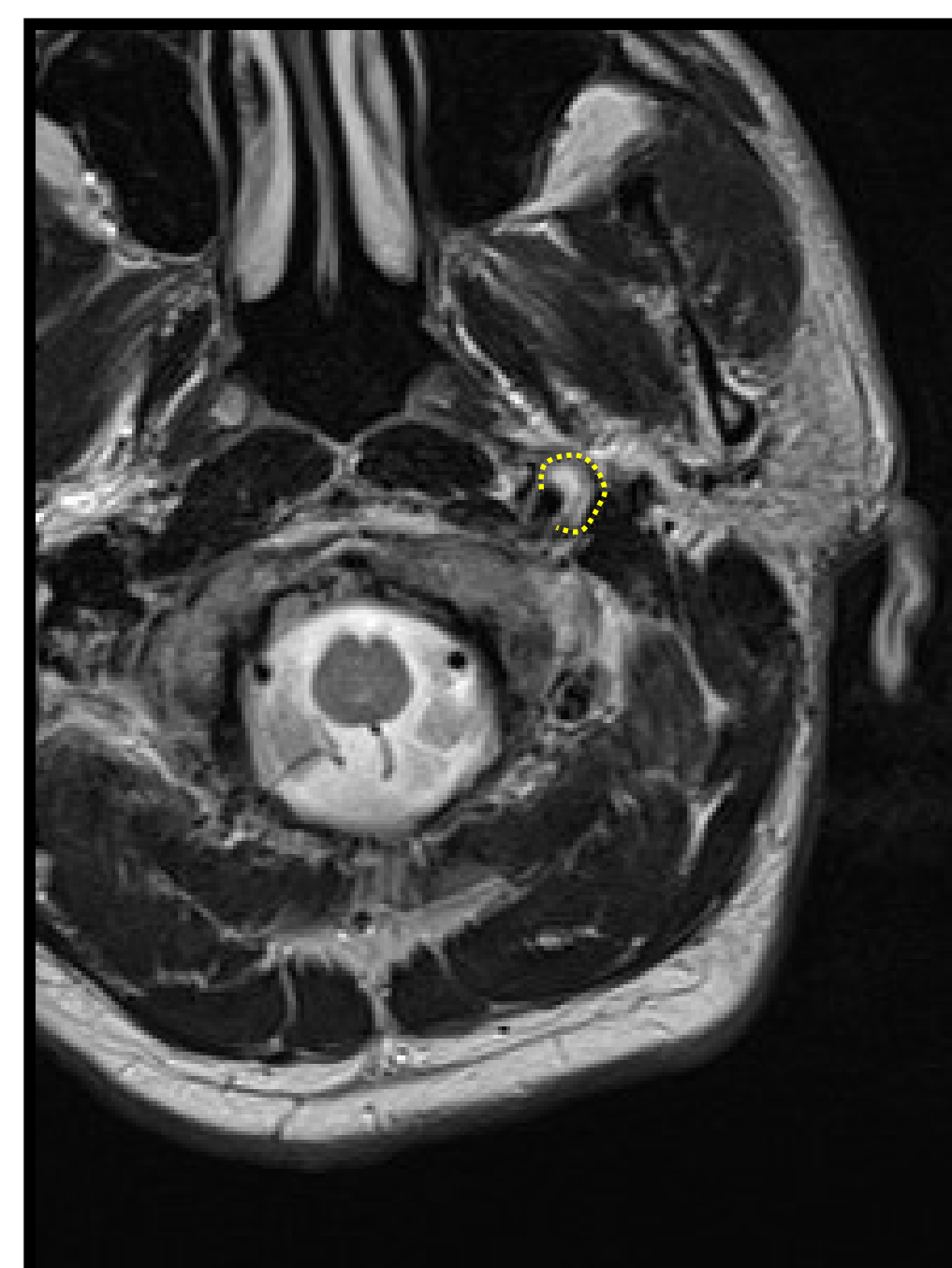
Materials and methods:

A 41 years old patient, without previous remarkable medical history, came to our observation for an acute onset of isolated paralysis of the left hypoglossal nerve, with no other cranial nerves deficit or further alterations of the neurological examination. The patient underwent a magnetic resonance imaging (MRI) and then a CT-Angio of the supra-aortic trunks.

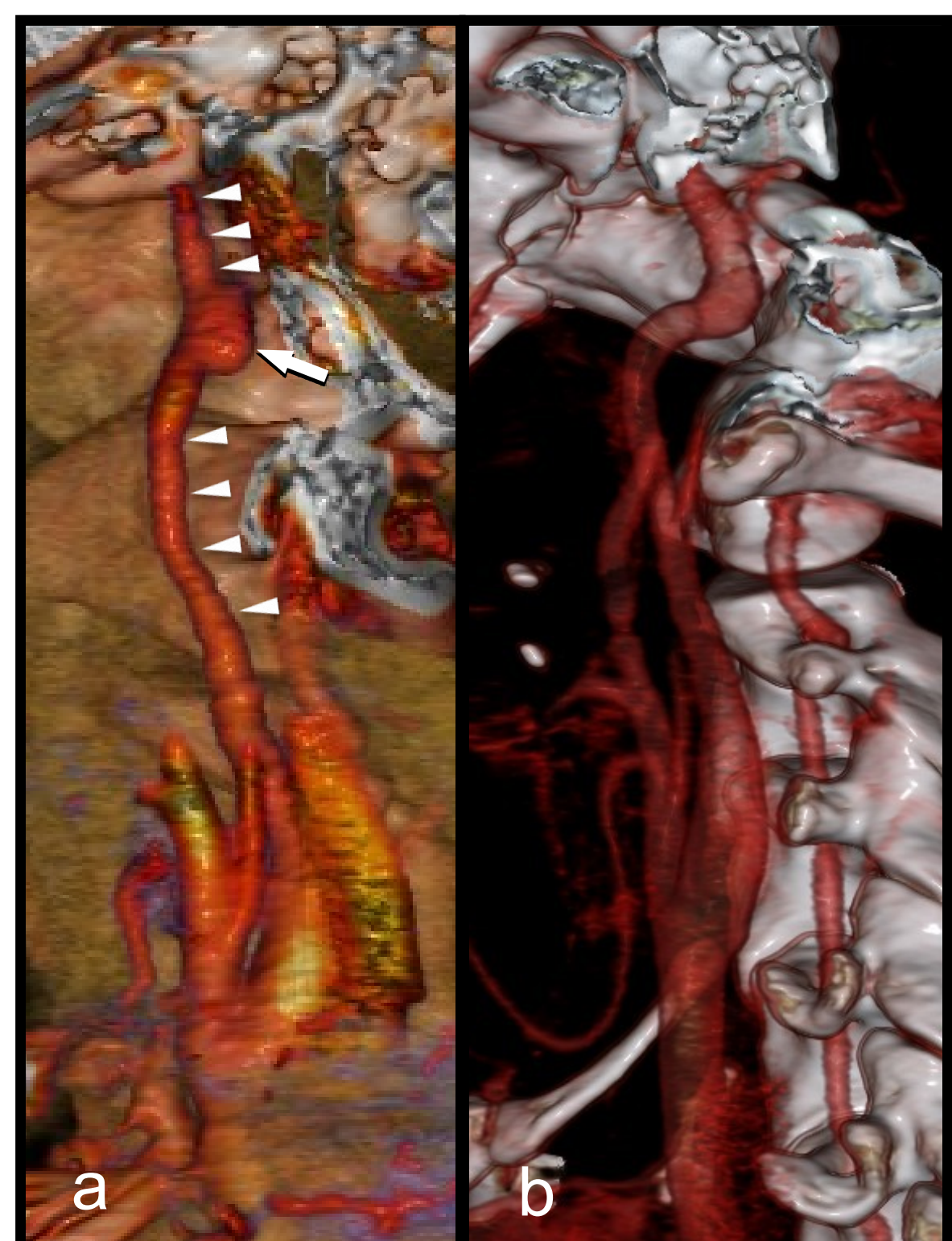


Results:

The MRI showed the presence of a focal eccentric signal alteration, typically referred to as “crescent sign”, hyperintense both in T1 and T2 sequences, at the periphery of the extracranial portion of the left ICA, suggestive for the presence of an intramural hematoma within a dissection of the vessel. The subsequent CT-Angio investigation also showed signs of dissection of the left ICA, characterized by multiple parietal irregularities along almost all of its cervical course, as well as a focal dilation immediately before its skull entrance, compatible with pseudoaneurysm.



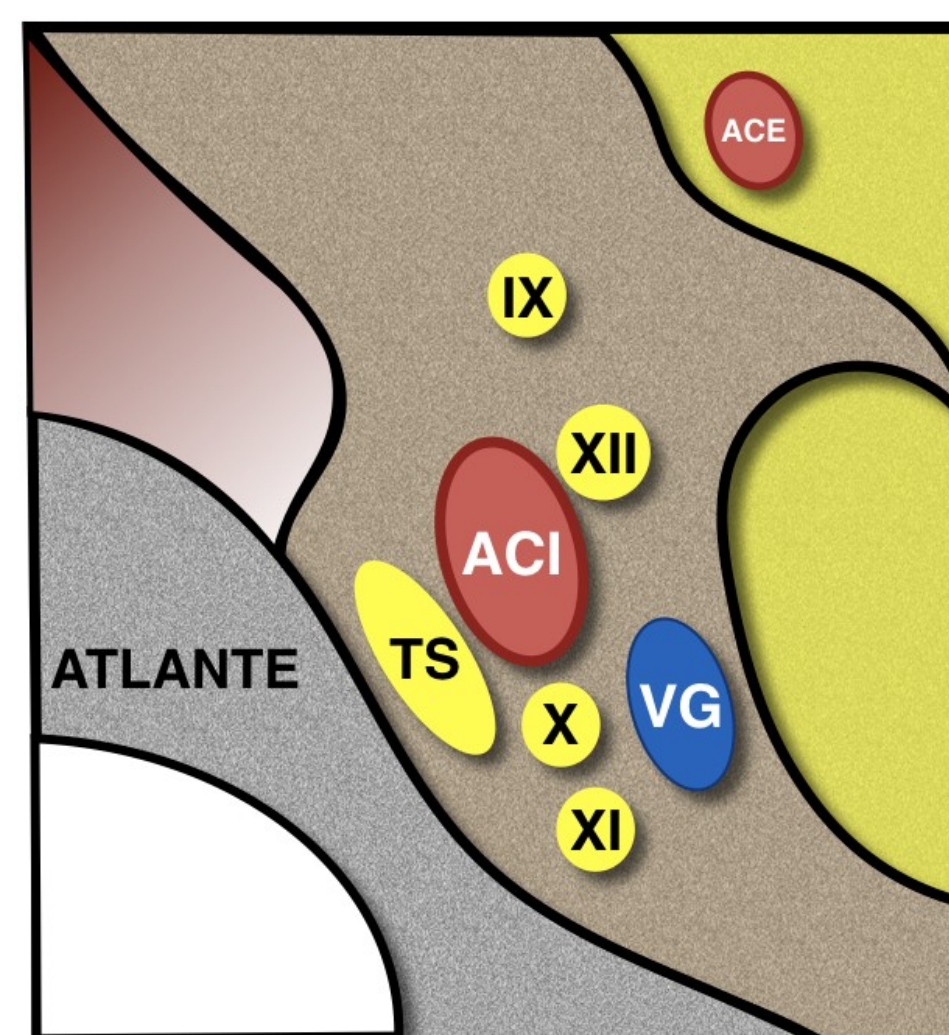
«Crescent sign» on T2-weighted and T1-weighted image



CT-Angio:
a)CT-angio at the clinical onset showing widespread caliber irregularities associated with pseudoaneurysmatic dilatation approximately 10 mm upstream of its skull entrance.
b)Three-months CT-angio control with almost complete resolution of the dissection and disappearance of the pseudoaneurysm.

Conclusions:

Hypoglossal nerve palsy as an isolated manifestation of carotid dissection is, although described, a rare event. More often, an ICA dissection in a young healthy patient usually occurs after a trauma or a neck manipulation or strain, with headache, cervical pain, ipsilateral Horner syndrome, transient ischemic attacks, or stroke.



Credits Dr. Nicola Romano

The mechanism hypothesized in our case, is the direct compression of the hypoglossal nerve by the dissected vessel at the carotid space. We should then keep in mind that in such clinical setting, a thorough clinical information should be given to the radiologist and specific sequences, such as fat saturated T1, able to recognize vessel dissection should be suggested. In our case an early, not expected, recognition of an ICA dissection allowed early optimization of the therapy with anticoagulant drug without further problems for the patient and a progressive rapid resolution of the deficit.

¹ Department of Neuroscience, Rehabilitation, Ophthalmology, Genetics, Maternal and Child Health (DiNOGMI), University of Genova, Genova
² Department of Neuroradiology, IRCCS AOU San Martino-IST, Genova.