

Horton's Arteritis: a diagnosis not always taken for granted

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Background: Giant cell arteritis (GCA), or Horton's arteritis, mainly affects the temporal artery. It typically occurs in elderly subjects, generally over 70 years of age, with a slight predilection for women. It is usually characterized by typical clinical manifestations such as temporal headache, chewing claudication, visual abnormalities, and systemic symptoms. However, cases with atypical manifestations have been reported.

Case Report: Male 78 y.o. In PS due to dizziness and speech, gait, and vision disorders. Anamnesis: arterial hypertension and carotid atherosclerosis. Cerebral angiography, performed after other inconclusive imaging procedures for diagnostic purposes, substantially documents hemodynamically significant stenosis of the vertebral arteries with the indication of endovascular treatment of the left vertebral artery and double anti-aggregation therapy. Laboratory tests show increased inflammation indices. The Doppler of the temporal arteries shows a perivascular hypoechoic circular halo ("halo" sign). The tests for the evaluation of autoimmunity are negative. Fundus examination is suggestive of retinal vasculitis. On PET CT: bilateral retro-orbital accumulation of radiopharmaceuticals, attributable, in the first hypothesis, to the increased metabolic activity of the ophthalmic arteries. In the light of these elements, the radiological images are re-evaluated, and it is revealed, on a more careful analysis, that the stenotic lesion is perfectly concentric, which is unusual for common atherosclerotic plaques, and that the contrast medium impregnates the wall of the vertebral arteries. Once the

diagnostic hypothesis of Horton's arteritis has been formulated, endovascular treatment is abandoned, whereas starting steroid therapy (prednisone 50 mg/day) and witnessing the rapid improvement of symptoms and clinical stabilization within two weeks. Simultaneous normalization of inflammatory indices. After the de-escalation of steroid therapy, therapy with tocilizumab, an antibody capable of neutralizing interleukin 6, one of the main factors for the onset and maintenance of inflammation, began. The patient is currently asymptomatic and entrusted to rheumatologic follow-up.

Discussion and Conclusion: GCA can present with atypical symptoms and, among these, rarely begin with a stroke (0.11% of patients) difficult to differentiate from other more common aetiologies. The gold standard diagnostic test for GCA is still the temporal artery biopsy. However, over the recent years, Doppler ultrasound has become a reference tool for the diagnosis of temporal arteritis, so much that it is recommended (EULAR 2018) as a first-level method in the diagnostic suspicion of GCA. The easily detectable ultrasound feature, of greater sensitivity (68-75%) and specificity (83-91%) for the diagnosis of GCA is the presence of a concentric hypoechoic thickening ("halo" sign), highlighted not only at the level of the temporal arteries, but also at the level of the vertebral arteries and, in rare cases, also at the level of the carotid arteries. In patients with stroke, the "halo" sign, accidentally detected in the vertebral arteries on a routine cervical ultrasound examination, might be the first clue for GCA.