Accidente vascular cerebral como la presentación inicial de arteritis de células gigantes

Ischemic stroke as initial presentation of giant cell arteritis

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ABSTRACT

We report a 74-year-old female that presented with multiple bilateral vertebrobasilar strokes. A standard aetiologic study found an increased erythrocyte sedimental rate and multiple vascular stenoses on CT angiography. More extensive study validated the hypothesis of giant cell arteritis. Despite the introduction of corticosteroid, the patient presented with a new acute ischemic stroke due to stenosis of the right carotid siphon. This case highlights the importance of early recognition of stroke due to GCA.

Keywords: Giant cell arteritis, stroke, erythrocyte sedimental rate.

RESUMEN

Presentamos el caso de una paciente de 74 años que presentó un accidente vascular cerebral de la arteria vertebro-basilar en el que durante el estudio etiológico se encontró aumento de la velocidad de sedimentación sin otras alteraciones particulares en el estudio. A pesar de la introducción de la terapia con corticosteroides, la paciente todavía desarrolló otro episodio de accidente cerebrovascular con estenosis del sifón carotídeo derecho, lo que demuestra la importancia del reconocimiento temprano de accidente cerebrovascular por arteritis de células gigantes.

Palabras clave: Arteritis de células gigantes, accidente vascular cerebral, velocidad de sedimentación.

CASE REPORT

A 74-year-old woman presented to the Emergency Department with a three-week history of vertigo and headache, accompanied by inability to articulate words and facial asymmetry. Medical history consisted only of well-controlled hypertension and depression.

On physical examination, she was conscious and partially oriented, with mild dysarthria, minor facial palsy and right-sided hemiparesis (MRC XXXX).

Head computational tomography (CT) disclosed multiple bilateral hypodense lesions in vertebrobasilar artery territory (right occipital and bilateral cerebellar arteries). Angio-CT highlighted an occlusion in the right vertebral artery from its V1 segment, with a filiform calibre in V2, occluded V3, and filiform filling of V4, as well as bilateral intracranial internal carotid arteries irregularities. No contrast-capturing lesions were observed. Thus, a diagnosis of ischemic stroke in the territory of the vertebrobasilar artery was made and the patient was admitted for further studies.

Standard stroke (echocardiogram, laboratory studies, and head and neck imaging) was negative for other cardioembolic or large-artery atherosclerosis. Magnetic resonance angiography showed focal stenosis of the right carotid siphon, right internal carotid artery, and a "pearl necklace" image in the posterior cerebral arteries, suggesting the diagnosis of vasculitis.

With this in mind, an extended auto-immune panel was conducted, only to highlight an increase in erythrocyte sedimental rate (ESR) and C-Reactive Protein (CRP), with all the other results coming back negative, thus confirming vasculitis. The patient started therapy with intravenous methylprednisolone for five days, followed by oral prednisolone 1 mg/kg/day.

A temporal artery biopsy was conducted and showed perivascular lymphocytic inflammatory infiltrate, although with no giant cells.

The patient's clinical status evolved unfavorably with a new stroke in the medial cerebral artery territory, with a head CT confirming aggravated stenosis of the right carotid siphon, thus showcasing the progression of disease with the need for therapeutic add-on with tocilizumab (monoclonal antibody against interleukin-6), with no further progression at the time of this case report.

DISCUSSION

Giant Cell Arteritis (GCA) is an autoimmune disease affecting the blood vessels and is the most common vasculitis of the elderly[1]. The pro-inflammatory status associated with this disease can cause narrowing and stenosis of blood vessels, leading to characteristic signs and symptoms responsible for the disease [2]. GCA is an important and disabling cause of ischemic stroke, requiring a high level of suspicion.[1,3]

Albeit not the most common manifestation of GCA, ischemic stroke can occur as a result of the involvement of cerebral arteries, the most commonly associated being vertebrobasilar or carotid arteries[1,2,4]. Most cases of GCA-related stroke tend to occur in patients with other disease manifestations such as aortic involvement.[2]

Although temporal artery biopsy is a good diagnostic tool when thinking about giant cell arteritis, it is not an infallible method. Negative biopsies can occur, even with patients having severe disease manifestations such as stroke, though negative biopsies tend to correlate with less severe disease[6]. Due to the non-continuity of the lesions, "fal-

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Figure 1. Head and Neck-CT on admission showing hypodense lesions in the territory of vertebrobasilar arteries, worse on the right side.

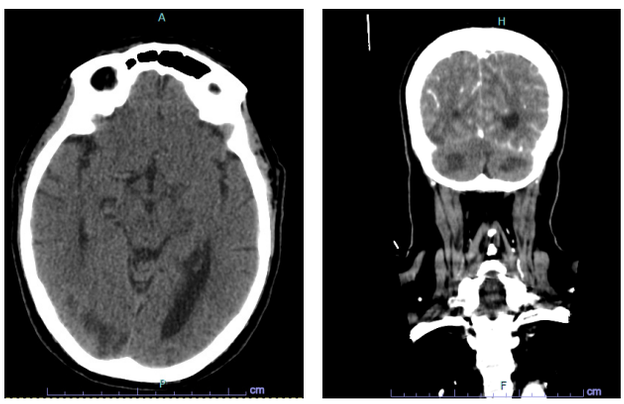
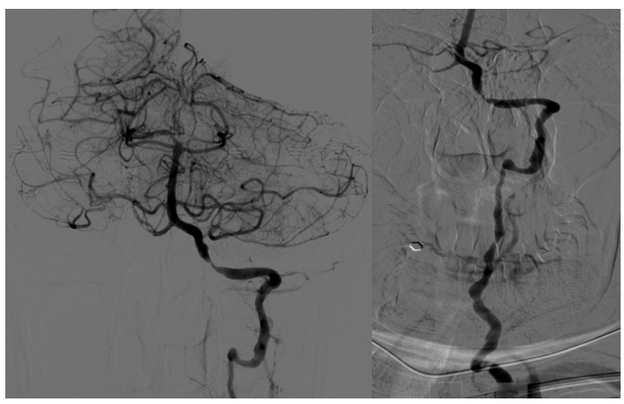


Figure 2. Angiography showing several arterial stenosis



se-negative" biopsies can occur, especially if the patient has already been subjected to prior immunosuppression[7], as was the case of our patient, that with high ESR, the patient's age and clinical presentation was given the diagnosis of giant cell arteritis, even with a negative temporal artery biopsy.

In conclusion, stroke is one of the commonest diseases in the elderly population and the diagnosis of ACG requires a high level of clinical suspicion, which can be harder to make with only non-specific findings (such as high ESR and CRP).

As such, when a patient presents with vertebrobasilar artery-related stroke, the aetiologic study should comprise laboratory studies that include acute phase reactants and ESR, to increase the probability of identifying patients with such a rare stroke aetiology.

CONFLICTS OF INTEREST
None to declare.

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ETHICAL ASPECTS
All participants submitted a consent form to be included in this study.

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