acta medica

INVITED REVIEW

Differential Diagnosis of Optic Neuritis and Neuro-Ophthalmological Assessment in Giant Cell Arteritis

Ayşe İlksen Çolpak[1]
ORCID: 0000-0002-2138-7051

Giant cell arteritis (GCA) is the most common systemic vasculitis in individuals over 50 years old, peaking between the ages of 70 and 79. It is a chronic, granulomatous systemic vasculitis affecting large and medium-sized vessels, especially the branches of internal and external carotid arteries. Ischemia of the temporal and ophthalmic arteries is responsible for common symptoms such as; headache, vision loss, and jaw claudication.

Headache is the most likely reason for a neurologist to encounter a patient with GCA, while vision loss is the most dreadful, as it is irreversible. Early diagnosis and treatment are vital to prevent permanent visual loss, and GCA is accepted as a neuro-ophthalmological emergency. Vision loss occurs in almost 20% of GCA patients, and 79-91% are due to arteritic anterior ischemic optic neuropathy (AAION). AAION is caused by occlusion of the posterior ciliary arteries, and patients have severe monocular sudden vision loss. Examination findings are loss of visual acuity at counting fingers level, loss of color vision, relative afferent pupillary defect, altitudinal (primarily inferior) visual field defect, optic disc edema, and chalky-white pallor of the optic nerve head. The diagnosis is more likely to be considered in patients with systemic symptoms like weight loss, fever, jaw claudication, or temporary vision loss precede AAION. In 25% of patients, GCA is insidious and may present with AAION. Simultaneous optic nerve involvement is very rare, but second eye involvement in days or weeks is quite common, seen in 12-50% of GCA patients. Although the response to steroid therapy is very poor in the affected eye, second eye involvement is the main reason to start prompt steroid treatment. Non-arteritic ischemic optic neuropathy (NAION) presents similar to AAION, and it is more common compared to AAION at these ages. Differentiation is not easy just with the examination; only retinal or choroidal ischemia would support AAION. Vision loss is milder in NAION; patients have no prior transient vision loss episodes and no inflammatory changes in serum (elevated erythrocyte sedimentation rate (ESR), elevated C-reactive protein (CRP), thrombocytosis and anemia). Central retinal artery occlusion is another neuro-ophthalmological emergency and can be seen in 5 to 14% of cases in GCA patients. Stroke is not a common complication in GCA, and homonymous hemianopia due to occipital lobe ischemia is rare. Double vision is another rare complaint, mainly associated with sixth nerve palsy.

Especially in patients over 50 years of age, in the presence of new-onset headache and temporary vision loss, GCA should be considered, and diagnostic tests should be performed as soon as possible.

[1]Hacettepe University Faculty of Medicine, Department of Neurology, Ankara, Turkey.

Note:
This manuscript was reviewed by Hale Z. Batur Çağlayan.