A Case of Takayasu's Arteritis Presented with Vertigo Alone

Yalnızca Vertigo Yakınması Olan Takayasu Arteriti

Vertigo ve Takayasu Arteriti / Vertigo and Takayasu's Arteritis

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Özet

Takayasu arteriti (TA) aortu ve ana dallarını tutan kronik vaskülitik süreçlerle karekterize ve ileri evrelerinde organ iskemisine sebep olabilen otoimmün bir hastalıktır. Hastalığın son evresinde serebral iskemiye bağlı nörolojik bulgular gelişebilmektedir. Olgumuzda serebral kan akımını sağlayan 4 ana vasküler yapıdan 3'ünün oklüde olmasına rağmen nörolojik bulgular ortaya çıkmamış sadece vertigo semptomu ile hastaneye başvurmuştur. Beyin MR incelemede supra-periventriküler beyaz cevherde iskemik değişikliği düşündüren multipl patolojik sinyal alanları görüldü. Serebral MR anjiografi tetkikinde sağ internal carotid arter ve her iki vertebral arterin oklüde olduğu görüldü. Vasküler bulgular DSA ile teyyid edildi. Klinik, radyolojik ve laboratuar bulgularıyla TA tanısı konularak tedaviye başlandı..

Anahtar Kelimeler

Takayasu Arteriti; Vertigo; Magnetic Resonance İmaging

Abstract

Takayasu's Arteritis (TA) is a autoimmune disease charecterised by chronic vasculitis mainly involving the aorta and its main branches and causes organ ischemia especially in advanced stage. Neurological complications may developed in advanced stage. The patient is having no prominent clinical sign except vertigo; even though, three out of four main vessels are occluded. Multiple hyperintens signal intensities suggesting ischemic changes were seen at periventricular white matter on brain MR imaging. Right internal carotid artery and both vertebral arteries were seen as a totally occluded on cerebral MRA and confirmed by digital subtraction angiography. The diagnosis of TA was made by clinical, radiologic, and laboratory findings, and then, treatment was started.

Keywords

Takayasu's Arteritis; Vertigo; Magnetic Resonance Imaging

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Introduction

Takayasu's Arteritis is a chronic inflammatory disease that affects the aorta and its major branches. And also it is proposed that it was a cell mediated autoimmune disease [1]. There is a strong female predominance (F/M ≈ 9/1) and it tends to affect younger patients (< 50 years of age). The exact spectrum can be highly variable dependent on the territory of vascular involvement. Organ ischemia may be seen in the disease progress. In the latest stage of the disease, neurological manifestations resulting from cerebral ischemia can occur. Neurological features are major causes of increasing mortality and morbidity [2].

We report a case presented with vertigo as the initial manifestation of TA in spite of having right ICA and both vertebral artery occlusion without evidence of neurological findings.

Case Report

A 43 year-old female patient presented to our hospital complaining vertigo. The patient suffered from vertigo for 5 years which was triggered by sudden movements. There was no history of neurological disease. Physical exam was inconclusive and no abnormality was detected on neurologic and ENT examinations. Endovisual imaging and vestibular function tests such as Romberg, Babinski-Weil, and Dix-Hallpike were normal. Audiologic tests were within normal limits. The blood pressure measured from both arms was equal, but pulsatility was decreased. Brain MRI showed ischemic changes at the periventricular white matter (Figure 1) and cranial magnetic resonance angiography (MRA) demonstrated occlusion of the right internal carotid arteries (ICA) and both vertebral arteries (VA). Vasculary changes suggesting TA were confirmed by cerebral digital subtraction angiography. Anterior and posterior circulations of brain are provided by only left ICA owing to good willis vascular network (Figure 2). Anti-nuclear antibodies, anti-double stranded deoxy

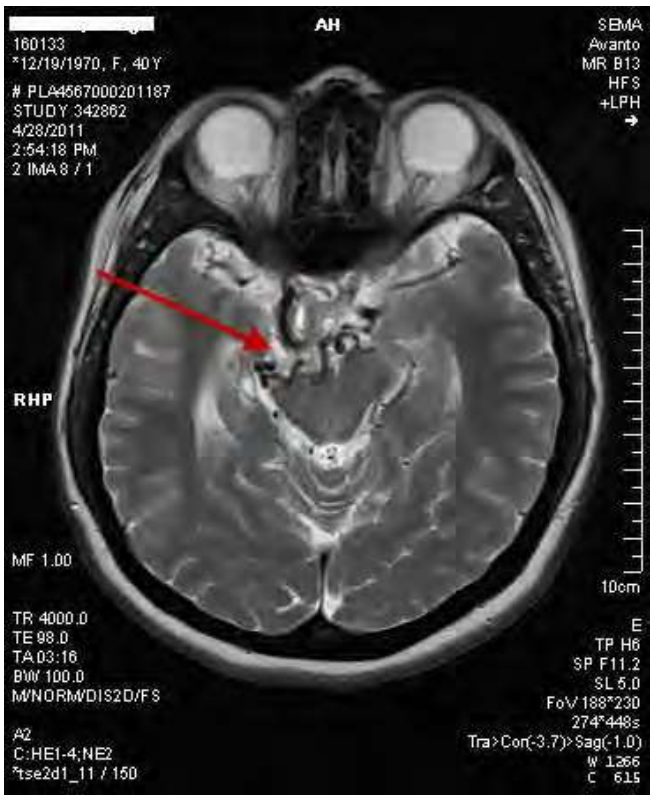


Figure 1. Basal collateral vessels and atrophic changes on the right side of brain stem is seen on T2 W axial image.

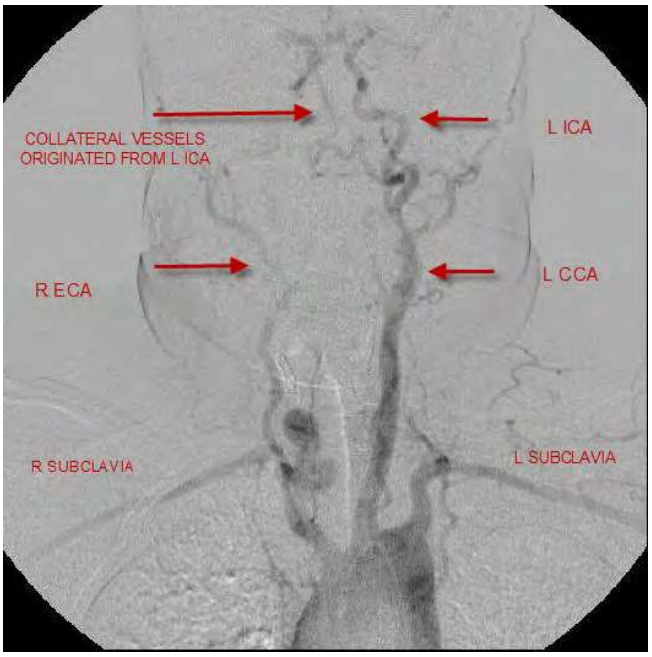


Figure 2. Selective right common carotid artery injection demonstrates total occlusion of right internal cerebral artery

ribonucleic antibodies and anti phospholipid antibodies were negative and erythrocyte sedimentation rate, protein C, protein S and antithrombin III were within normal limits. Diagnosis of TA was made by the American College of Rheumatology criterias [3]. She was treated with high dose prednisone. Initial dose was 60 mg daily for 8 weeks, and then the dose was tapered step by step. Currently she is taking 10 mg prednisone every day. The patient is followed-up uneventfully.

Discussion

TA is a chronic vasculitis that mainly involves the aorta and its main branches. The female/male ratio varies from 9:1 in several reports [2]. The underlying pathology is segmental and patchy granulomatous inflammation leading to stenosis, blockage or aneurysm formation [4]. The disease is also called the pulseless disease because of the difficulty in detecting the peripheral pulses. Patients can present with systemic manifestations such as fever, athralgia and weaight or vascular symptoms such as arm cluadication, headache, vertigo and high blood pressure [5-7]. TA presenting with vertigo alone has not been reported yet in literature.

The two phases of the disease are classically described as pre pulseless phase characterized by nonspecific systemic symptoms, and pulseless phase presents with ischemic changes. Anemia is usually seen with raised inflammatory markers. This phase gradually resolves with initiation of the chronic phase which is characterized by inflammatory and obliterative changes in the aorta and its branches [4].

Radiologic findings have a pivot role in making diagnosis. Vascular wall thickening, occlusion of major aortic branches, and aneurismal dilatations are common radiologic findings corresponding TA [8]. Pathologically, there is involvement of all three vessel layers, resulting in fibrosis and wall thickening, which precedes luminal compromise. Thus, CT may play critical role in diagnosis before angiographically detectable luminal changes. Angiography has been the procedure of choice for the diagnostic evaluation of TA. Angiography often shows long, smooth,

tapered stenoses ranging from mild to severe. Angiography is useful in guiding interventional procedures; however, angiography does not depict wall architecture changes as effectively as cross-sectional techniques. Therefore, cross-sectional techniques are the most valuable for diagnosis [9]. Sonography reveals homogeneous circumferential thickening of affected vessels, vascular occlusions and dilation. CT is useful method for early diagnosis because it allows evaluation of wall thickness rather than merely the luminal diameter, which is especially important because early diagnosis and treatment are associated with improved prognosis. The spectrum of findings on CT angiography includes stenoses; occlusions; aneurysms; and concentric arterial wall thickening affecting the aorta and its branches. MRI advantages include the lack of need for ionizing radiation; therefore, MRI is ideal for serial evaluation of patients with TA who are undergoing treatment. Furthermore, as with CT, MRI is useful for early diagnosis because of its ability to evaluate wall thickness rather than just the luminal narrowing [2, 8, 9]. In our case, MRI had a pivot role in making diagnosis: MR and MRA showed ischemic changes in cerebral white matter and right ICA and both vertebral artery occlusion. Arterial wall thickenings also strongly suggest TA. The most interesting point of our case is having no prominent clinical sign except vertigo despite the 3 of four occluded cerebral vessels and cerebral perfusion was only being supplied by left ICA.

Corticosteroids can be used for initial treatment. Other medical options include methotrexate, cyclophosphamide, and cyclosporine [1]. Prognosis tends to be variable ranging from rapidly progressive disease in some reaching a quiescent stage in others. Glucocorticoids are the mainstay of treatment in the active stage of the disease. This is thought to halt the inflammation and further stenosis in vessels [9]. We preferred medical treatment and close follow-up. If left internal cerebral artery goes to narrowing, angioplasty or surgical treatment may be indicated, because all cerebral blood flow is supplied by left ICA.

As a conclusion, TA may be presented with various clinical pictures. As in our case, we should recall vasculitis, especially TA in differential diagnosis for cases of vertigo with no etiological explanation.

Competing interests

The authors declare that they have no competing interests.

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