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Indian Origin Takayasu Arteritis : A Case Report With A Brief Review From Asymptomatic Presentation To Diagnosis And Clinical Management

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Abstract

A rare chronic granulomatous vasculitis known as Takayasu's arteritis mainly affects the aorta and its branches. It is thought that the disease affects 2.6 million people annually, primarily women in their second or third decade of life. This case report describes a case of a 22-year-old female who initially presented to a neurologist with complaints of upper and lower back pain and managed conservatively. A few months later, she explained to the medical department that she had a high-grade fever with syncopal episodes, generalized body aches, and right arm swelling. CAP showed "Diffuse thickening of the wall of the entire thoracic and abdominal aorta, diffuse long segment luminal narrowing of the scanned proximal left common carotid artery as well as the left subclavian artery and Diffuse thickening of the wall of the abdominal aorta. Takayasu disease can present unusually, so early diagnosis and management is a crucial step towards patient care.

Keywords: Takayasu Arteritis, Autoimmune, autoimmune in females, vascular disease

Introduction

Takayasu arteritis (TA), often known as "pulseless disease," is a primary systemic vasculitis that affects the pulmonary, coronary, and medium- and large-sized arteries, including the aorta and its branches.It is a chronic inflammatory condition of uncertain etiology characterized by granulomatous vasculitis, which causes the streets affected to thicken, enlarge, stenosis, and produce aneurysms **[1,2]**. Additionally, the signs and symptoms include angiodynia, claudication, peripheral pulselessness, murmurs, ischemic stroke,myocardial infarction, severe systemic arterial hypertension, etc., andare brought on by systemic inflammation or ischemia of an organ or limb1. 80% of TA sufferers are female, with females typically beingmore affected than males. The ratio of women to men varies, nevertheless, from 9:1 in Japan and 6.9:1 in Mexico to 1.2:1 in Israel**[3]**. Additionally, TA can be fatal and is linked to substantial morbidity. A monophasic and self-limited condition affects about 20% of patients, while other patients may have a progressive or relapsing/remitting sickness. Additionally, the overall 10-year survival rate for this illness is around 90%. However, this number can drop in the case of serious complications **[4]**. A case of TA in a femalepatient, age 21, is presented here.

Case Report

A 22-year-old Asian woman presented to the outpatient department with acute febrile illness, generalized body aches, syncope, and right arm swelling. She was then admitted to the medical high-dependency unit (HDU). She had a history of stillbirth (2nd pregnancy loss) a few months back. After a few months of pregnancy loss, she developed weakness with whole back pain, for which she visited a neurologist. The patient visited the gynecologist for a regular check-up and was diagnosed as having Toxoplasmosis, which she was treated with azithromycin, and she was recommended an MMR vaccination. After the MMR vaccination, she developed a fever, which spiked early in the morning with rigors and chills. She complained that her condition worsened after the MMR vaccination. She was having syncopal episodes while doing her house chores, as well as bending over to pick something up. She did her ESR and CBC on a primary physician's advice; the ESR was raised (42mm/hr), MCV was low (77mg/dl), and platelets were high (573mg/dl). She was complainingof fatigue, weakness, and upper limb cramps and came to see a Gynaecologist at Northwest General Hospital. She was referred to a medical specialist who admitted her to the hospital for further investigation and management. On physical examination, she was afebrile with a blood pressure of 160/87 mmHg and normal oxygen saturation. ECG and ultrasound of the abdomen had no significant findings. At the same time, CT CAP showed "Diffuse thickening of the wall of the entire thoracic and abdominal aorta, diffuse long segment luminal narrowing of the scanned proximal left common carotid artery as well as the left

subclavian artery and Diffuse thickening of the wall of the abdominal aorta is noted upto itsbifurcation."

Based on the CT-CAP, a diagnosis was made. The patient wasinitially managed with antibiotics. Later, after the diagnosis was made, the patient was given oral steroids on a tapered basis. The patient was also on PPIs, CA+2, and vitamin D supplements.

Laboratory tests and imaging

Laboratory tests frequently need more specificity. In the early stages of the disease, the erythrocyte sedimentation rate may be high—generally greater than 50 mm/h—but surprisingly, it is frequently normal afterward. A normal or slightly higher leukocyte count is possible. Patients with advanced illness may have moderate, normochromic, or hypochromic anemia, thrombocytosis with neutrophilia showing left s. Antinuclear antibodies, rheumatoid factor, and antineutrophil cytoplasmic antibodies are just as standard in the general population as autoantibodies in other connective tissue diseases. Numerous results include hypoalbuminemia and elevated levels of fibrinogen, C reactive protein(CRP), and gamma globulin. There is no clear relationship that has been verified by HLA typing. The gold standard for criteria is angiograms. The aorta, its principal branches, or big arteries in the proximal upper or lower extremities must be narrowed according to the angiographic criteria. Typically, focal or segmental changes occur. The prognostic value of angiographical categorization is limited since it does not allow a comparison of patient characteristics based on the vessels involved in the procedure. Aorta thickness can be measured using ultrasound or computed tomography (CT) scanning. Although less accurate, magnetic resonance (MR) can be utilized to evaluate the vasculature noninvasively. Gallium and whole-body positron emissiontomography (PET) scanning, as well as ultrasonography, can helpdetermine how much the vessels have been affected by inflammation.

Discussion

Takayasu's illness is a long-term inflammatory condition that affects the large and medium-sized arteries, affecting the coronary branch, the streets of the lung, and the principal branches of the aorta. Since Takayasu's disease first came to light in 1908 (1), there have been somewhere in the range of 2.6 cases per million people worldwide each year, with women reportedly more susceptible than men. Individuals in their 30s experience the peak onset. Although Western research has also been published, most disease studies have been done in Japan (2–8). Cardiac characteristics can be found in up to 40% of cases. Patients with atheromatous aortas typically have no atherosclerosis risk factors, highlighting the significance of inflammation in atherosclerosis.

Vascular abnormalities result in several significant complications: pulmonary hypertension, aortic or arterial aneurysm, and hypertension, which is most frequently brought on by renal artery stenosis or, less regularly, narrowing of the suprarenal aorta. Additionally, described conditions include cardiomyopathy, myocarditis, and pericarditis. Pneumonia, interstitial pulmonary fibrosis, and alveolar destruction can all occur in patients with pulmonary arterities. Vertebrobasilar ischemia, carotid stenosis, and hypertensive encephalopathy are further clinical signs. Inflammatorybowel disease, glomerulonephritis, systemic lupus, rheumatoid arthritis, and ankylosing spondylitis have also been linked to Takayasu's disease. Sensorineural hearing loss has been linked to fewer standard connections. Only around 25% of patients get Takayasu's retinopathy, which is typically accompanied by carotid artery involvement.

Conclusion

Since Takayasu's arteritis is a rare condition, the diagnosis is sometimes delayed. To detect early warning manifestations like impalpable pulses and disparity in blood pressure, patients should have appropriate examinations and have even nonspecific symptomslike malaise, headache, and exhaustion thoroughly evaluated. Early illness detection can reduce morbidity and mortality since patients who arrive with symptoms including acute MI, pulmonary edema, and visual impairment later on are less likely to survive.

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Contribution

Haque MI contributed to the initial management of patients, the conception of the case reports, and data collection, and assisted in echocardiography, literature review, and writing the first draft. Priyatha V contributed to the literature review and critical revision of manuscripts. Ijaz S contributed to the literature review and review of the manuscript. Alhussain H contributed to the literature review and revision of the manuscript. Ahmed H and Haq LU contributed to the management of the patient, did the echocardiography, and contributed to data collection and critical revision of the manuscript. All authors read and approved the final manuscript.

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