Takayasu Arteritis

Takayasu's arteritis is a large vessel granulomatous vasculitis that often affects Asian females. This vasculitis mainly affects the aorta, the aortic branches, and the pulmonary arteries. These large vessels exhibit segmental and patchy granulomatous inflammation leading to arterial stenosis, thrombosis and aneurysms. Females are typically eight to nine times more likely to be affected by Takayasu's than males, and symptoms often begin between ages 15-30. Symptoms typically begin with an inflammatory phase, characterized by symptoms of fever, myalgia, night sweats, arthritis and fatigue. In this phase, lab findings demonstrate marked elevation of ESR. The inflammatory phase is followed by a pulseless phase, which is characterized by vascular insufficiency due to obstruction of the branches of the aorta, including the left common carotid, brachiocephalic and left subclavian. Patients can present with weak or absent pulses in the upper extremities, which is why Takayasu's arteritis is commonly referred to as the pulseless disease. Patients can also present with different blood pressures in the arms. One rare but important feature of Takayasu's is ocular disturbances with visual field defects, vision loss, or even retinal hemorrhage. The majority of patients with this arteritis respond to corticosteroids, such as prednisone.



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Pathophysiology

Granulomatous Thickening of Aortic Arch
Granny-llama on Aorta-orca
This vasculitis is characterized by granulomatous inflammation in the aorta and its branches, leading to vascular insufficiency.

Pulseless Disease
Lack of Pulse on EKG
Takayasu arteritis is characterized by vascular insufficiency due to obstruction of the branches of the aorta, including the left common carotid, brachiocephalic and left subclavian. Patients can present with weak or absent pulses in the upper extremities, which is why Takayasu arteritis is commonly referred to as the pulseless disease.

Asian Females
Asian Female
Females are typically eight to nine times more likely to be affected by Takayasu than males. This vasculitis is also common in the Asian population.

Signs and Symptoms

Fever
Fever-beaver
Fever is a common finding in the inflammatory stage of disease.

Myalgia
Mayo-algae
Myalgia, meaning muscle pain, is a common finding in the inflammatory stage of disease.

Night Sweats
Moon Sweats
Night sweats are a common finding in the inflammatory stage of disease.

Arthritis
King-Arthur
Inflammation of the joints is a common finding in the inflammatory stage of disease.

Ocular Disturbances
Wavy-eyes
One rare but important feature of Takayasu is ocular disturbances, with visual field defects, vision loss, or even retinal hemorrhage.

Diagnosis

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Increased ESR

Up-arrow ESR tubes

The erythrocyte sedimentation rate is the rate at which RBCs sediment in one hour and is a non-specific measure of inflammation. Symptoms of Takayasu arteritis typically begin with an inflammatory phase, and lab findings demonstrate marked elevation of ESR.

Different Blood Pressures in Arms

Blood Pressure cuffs on Both Arms

Due to obstruction of the branches of the aorta, patients can also present with different blood pressure readings in the two arms.

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