Buerger's Disease

Buerger's disease, also called thromboangiitis obliterans, is a disease characterized by vascular insufficiency due to segmental, thrombosing inflammation of medium and small arteries. Early manifestations include superficial nodular phlebitis, Raynaud-like cold sensitivity in the hands, and pain in the feet with exercise. Vascular insufficiency caused by the thrombosing inflammation can cause chronic ulcerations of toes and fingers, which can lead to autoamputation of the digits. Treatment includes abstinence from cigarette smoking, which often brings dramatic relief from further attacks if patients stop early enough in the disease course.



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Pathophysiology

Thromboangiitis Obliterans
Trombone-angel
Buerger's disease is also known as thromboangiitis obliterans. This vasculitis is characterized by sharply delineated segmental inflammation of medium and small blood vessels.

Segmental Inflammation
Segway In-flames
This vasculitis is characterized by sharply delineated segmental inflammation of medium and small blood vessels.

Strong Association with Smoking
Smoking cigarettes
This disease occurs almost exclusively in heavy cigarette smokers before the age of 45. It is thought that the strong correlation to cigarette smoking is due to direct endothelial cell toxicity by a component found in cigarettes, or an idiosyncratic immune response to a chemical irritant found in cigarettes.

Signs and Symptoms

Superficial Nodular Phlebitis
Nodular-knobs on Vessels
Inflammation of superficial veins with resulting nodular lesions is a common early manifestation of this disease.

Raynaud's Phenomenon
Blue Rain-cloud
Patients with Buerger's disease demonstrate cold sensitivity in the hands, similar to Raynaud's phenomenon. Raynaud's phenomenon is characterized by vasospasms that diminish blood flow to the fingers, toes, ears or nose in response to cold temperatures or stress. This can lead to sensation changes such as numbness, tingling and throbbing in the affected areas, as well as color changes, commonly progressing from white, to blue, and possibly to red as they begin to rewarm after reestablishing adequate circulation.

Autoamputation
Detached-finger
Vascular insufficiency caused by thrombosing inflammation can cause chronic ulcerations, and eventually autoamputation of the digits. Early and effective intervention is paramount to avoid any loss of limb or functionality.

Treatment

Smoking Cessation
No Smoking Sign
Intuitively and clinically, abstinence from cigarette smoking can bring dramatic relief from further attacks, as long as tobacco cessation is started early enough in the disease. It is important to realize that smokeless tobacco can also progress to Buerger’s disease.

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