

Buerger's Disease Diagnosis

Buerger's disease, also known as thromboangiitis obliterans, is a rare disease that primarily affects small and medium blood vessels, leading to reduced blood flow and increased risk of blood clots.

Buerger's disease diagnostic criteria

According to Shionoya (1998), the diagnosis of Buerger's disease should be based on the following five clinical criteria. A confirmed diagnosis requires that all five conditions be met:

- 1. Smoking history:** If the patient is not an active smoker, positive diagnosis of Buerger's disease should be withheld.
 - 2. Onset before the age of 50 years:** If the patient's age at onset is in his fifties, positive diagnosis of Buerger's disease should be circumspect.
 - 3. Infrapopliteal arterial occlusions:** Rubor and foot claudication are the most common symptoms of ischemia in patients with infrapopliteal arterial occlusions at multiple levels.
 - 4. Upper limb involvement or phlebitis migrans:** Upper limb involvement and phlebitis migrans are important features, either of which supports the clinical diagnosis of Buerger's disease.
 - 5. Absence of atherosclerotic risk factors other than smoking:** If a patient with Buerger's disease develops diabetes mellitus, hyperlipidemia or hypertension within a few years of the diagnosis of Buerger's disease, reevaluation of the initial diagnosis may be necessary.
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Findings and addition on Buerger's Disease

Lazarides et al. (2006) provide an extensive overview of Buerger's disease, expanding on diagnostic criteria, imaging techniques, treatment approaches, and global context. Here is an outline of their key contributions:

1. Diagnostic criteria and additions

- Core diagnostic criteria:** The authors reiterate Shionoya's established diagnostic criteria: smoking history, onset before 50, infrapopliteal arterial occlusions, upper limb involvement or phlebitis migrans, and absence of additional atherosclerotic risk factors.
- Angiographic features:** Lazarides et al. add that imaging findings, such as the "corkscrew" collaterals and segmental occlusions, are supportive but not exclusive to Buerger's disease. They suggest these features can assist in diagnosis, especially when traditional criteria are ambiguous, although they are not pathognomonic.

2. Differential diagnosis

- **Exclusion of other vascular diseases:** The authors emphasize ruling out conditions that mimic Buerger's disease, such as vasculitis, diabetes-related critical limb ischemia, and atherosclerosis.
- **Imaging as a diagnostic aid:** They advocate for imaging to differentiate Buerger's from other vascular diseases, particularly noting that the absence of atherosclerosis in proximal arteries and specific collateral formations are key distinguishing factors.

3. Expanded treatment options

- **Smoking cessation as primary treatment:** The study underlines that quitting smoking is essential, as continued tobacco use exacerbates the disease. Smoking cessation is strongly associated with reduced symptoms and improved outcomes.
- **Non-surgical pain management:** The study describes options like spinal cord stimulation and prostacyclin analogs (e.g., iloprost) for extreme pain and limb ischemia, which help improve blood flow and manage ischemic pain.

4. Global epidemiology and context

The study notes a higher incidence of Buerger's disease in areas such as the Middle East, Asia, and parts of the Mediterranean, where smoking rates among young adults remain elevated. This global context helps clinicians consider epidemiological risk factors when diagnosing Buerger's disease.

5. Role of emerging therapies

The study briefly discusses emerging treatments, such as gene therapy (vascular endothelial growth factor), to improve limb perfusion and heal ischemic ulcers. They also consider the potential of immunosuppressive drug such as cyclophosphamide, reflecting on the autoimmune theory of Buerger's disease.

References

- Lazarides, M. K., Georgiadis, G. S., Papas, T. T., & Nikolopoulos, E. S. (2006). Diagnostic criteria and treatment of Buerger's disease: A review. *The International Journal of Lower Extremity Wounds*, 5(2), 89–95. <https://doi.org/10.1177/1534734606288817>
- Shionoya, S. (1998). Diagnostic criteria of Buerger's disease. *International Journal of Cardiology*, 66, S243–S245. [https://doi.org/10.1016/S0167-5273\(98\)00175-2](https://doi.org/10.1016/S0167-5273(98)00175-2)