

Clinical challenges in thromboangiitis obliterans: a case report

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Introduction: Buerger disease or thromboangiitis obliterans (TAO) is non-atherosclerotic segmental inflammatory and occlusive vessel disease of unknown etiology. It affects small and medium-sized arteries and veins of the limbs, typically occurring in young male smokers. Involvement of visceral arteries is rare. The diagnosis relies on clinical presentation, radiological findings and exclusion of other clinical entities. The main treatment approach is smoking cessation¹⁻³.

Case report: 34-year-old-man, smoker, was admitted to due to recent abdominal pain, mainly post-prandial, without signs of peritonitis. During the period of several weeks he has lost about 5 kg. He noticed a spontaneous appearance of small wounds on his big toes that did not heal and reported inter-

mittent claudication for the last couple of years that now progressed to rest pain. Upon physical examination, we observed a lividity on the soles of both feet and small areas of necrosis on big toes. Distal arterial pulsations were absent. Computed tomography angiography (CTA) of abdominal aorta branches showed a thrombotic occlusion of the celiac trunk and the proximal section of the lienal artery without intestinal infarction while CTA of leg arteries revealed a segmental occlusion of both-sided peroneal and tibial arteries (**Figure 1** and **2**). No significant abnormality was found in blood tests, thrombophilia screening was negative, while potential cardioembolism was ruled out. Considering the patient's history of smoking, younger age, clini-

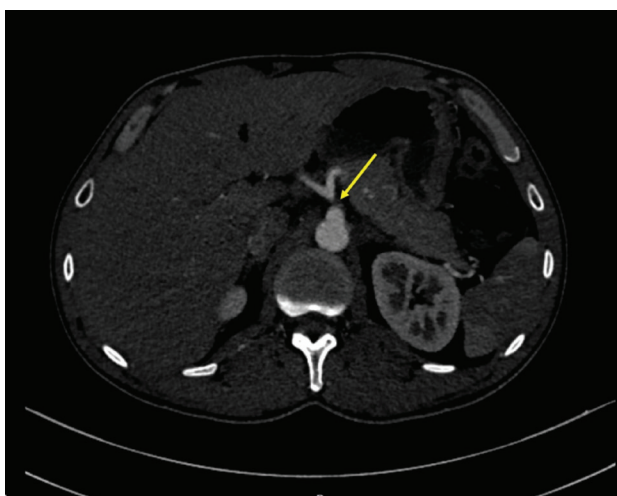


FIGURE 1. Computed tomography angiography of abdominal aorta branches showing the occlusion of the celiac trunk.

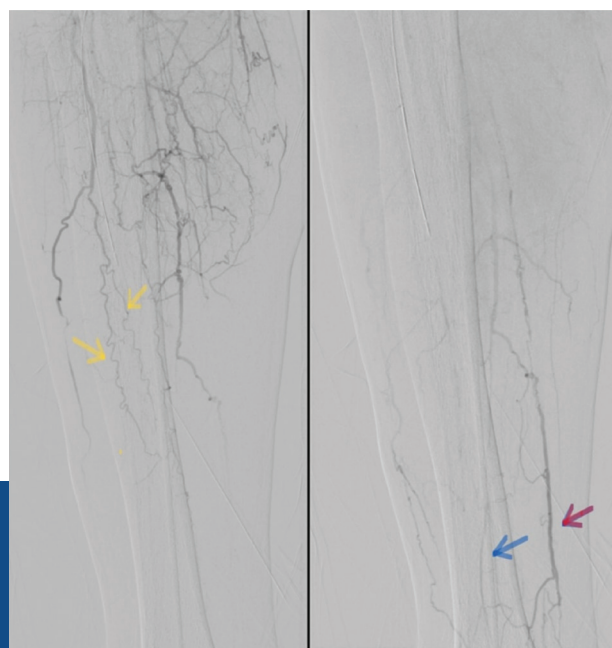


FIGURE 2. Digital subtraction angiography of lower extremities showing corkscrew collateral vessels (yellow arrows), the fibular artery (blue arrow) and the anterior tibial artery (red arrow).

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cal presentation and angiographic findings of segmental occlusions of the lower leg arteries along with the presence of corkscrew collateral vessels, we made a diagnosis of TAO. The patient has immediately been started on heparinization and antiaggregation, statins, analgesics and a customized diet plan. Balloon angioplasty of both legs was performed in two stages. During follow-up, we observed favorable outcomes: reduction in leg and abdominal pain, spontaneous recanalization of the splenic artery and stable body weight (Figure 3). Due to involvement of the splanchnic circulation, the patient was maintained on warfarin.

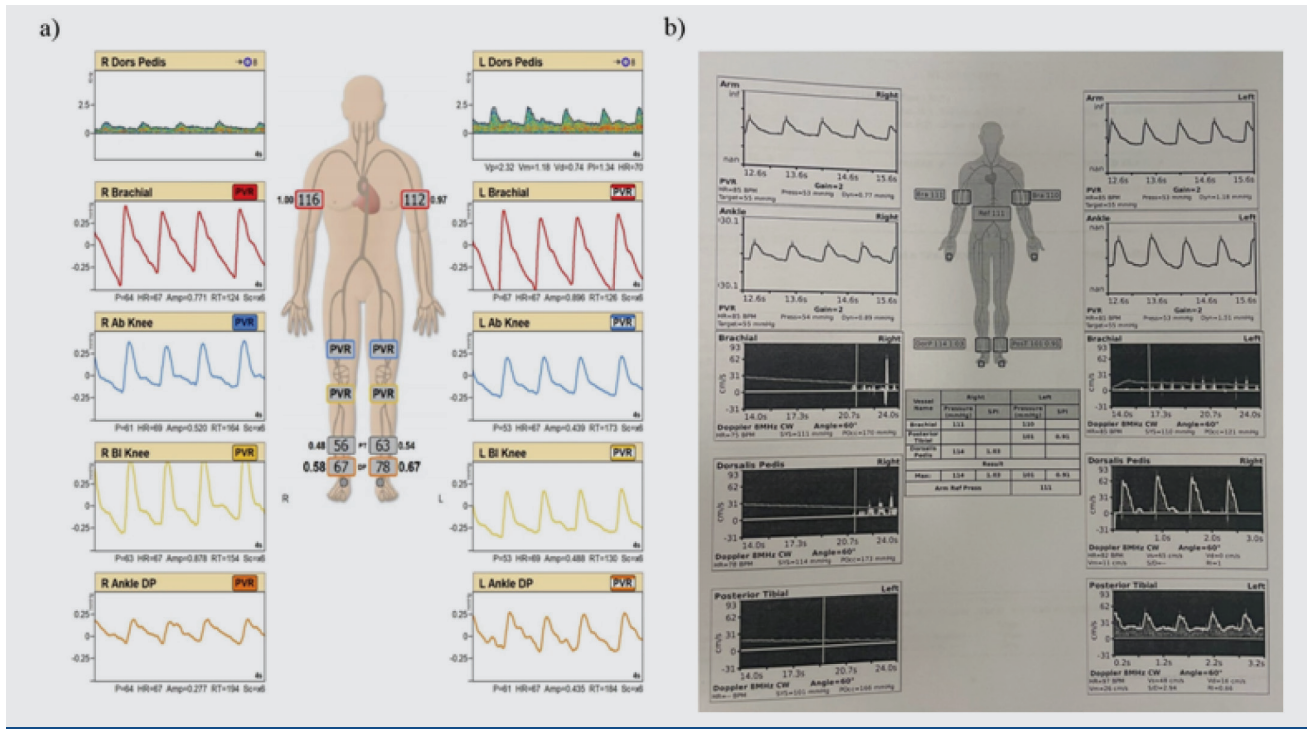


FIGURE 3. Ankle-brachial index before (a) and after (b) percutaneous revascularization showing improvement.

Conclusion: Abdominal angina in young smokers should raise suspicion of TAO. Anticoagulants in visceral involvement could improve the prognosis of TAO patients.

LITERATURE

1. Fakour F, Fazeli B. Visceral bed involvement in thromboangiitis obliterans: a systematic review. *Vasc Health Risk Manag.* 2019 Aug 15;15:317-353. <https://doi.org/10.2147/VHRM.S182450>
2. Bhushan M, Betzold RD, Al Diffalha S. Intestinal manifestation of Buerger’s disease in a middle-age female with subsequent transverse colon perforation: A case report and review of literature. *SAGE Open Med Case Rep.* 2023 May 17;11:X231175295. <https://doi.org/10.1177/2050313X231175295>
3. Gao J, Huang L, Wang J. Outcomes of Anticoagulant Therapy with Low-Molecular-Weight Heparin (LMWH) and Warfarin for Thromboangiitis Obliterans (TAO). *Curr Vasc Pharmacol.* 2021;19(6):655-662. <https://doi.org/10.2174/157016119666210118125424>