

# Spontaneous Peroneal Pseudoaneurysm in the Young Athlete

Jessica Thomashow, Nina C. Lund, MD PhD, Jennifer L. Hemberg, MD

Michigan State University College of Human Medicine, Department of Emergency Medicine, Grand Rapids Michigan

## Introduction

- Atraumatic pseudoaneurysm is a rare cause of unilateral extremity pain, but worthy of consideration in the pediatric patient or young adult, for whom genetic disorders with variable penetrance may not have yet reached clinical significance.
- Here, we present uncommon case of spontaneous peroneal pseudoaneurysm complicated by compartment syndrome.

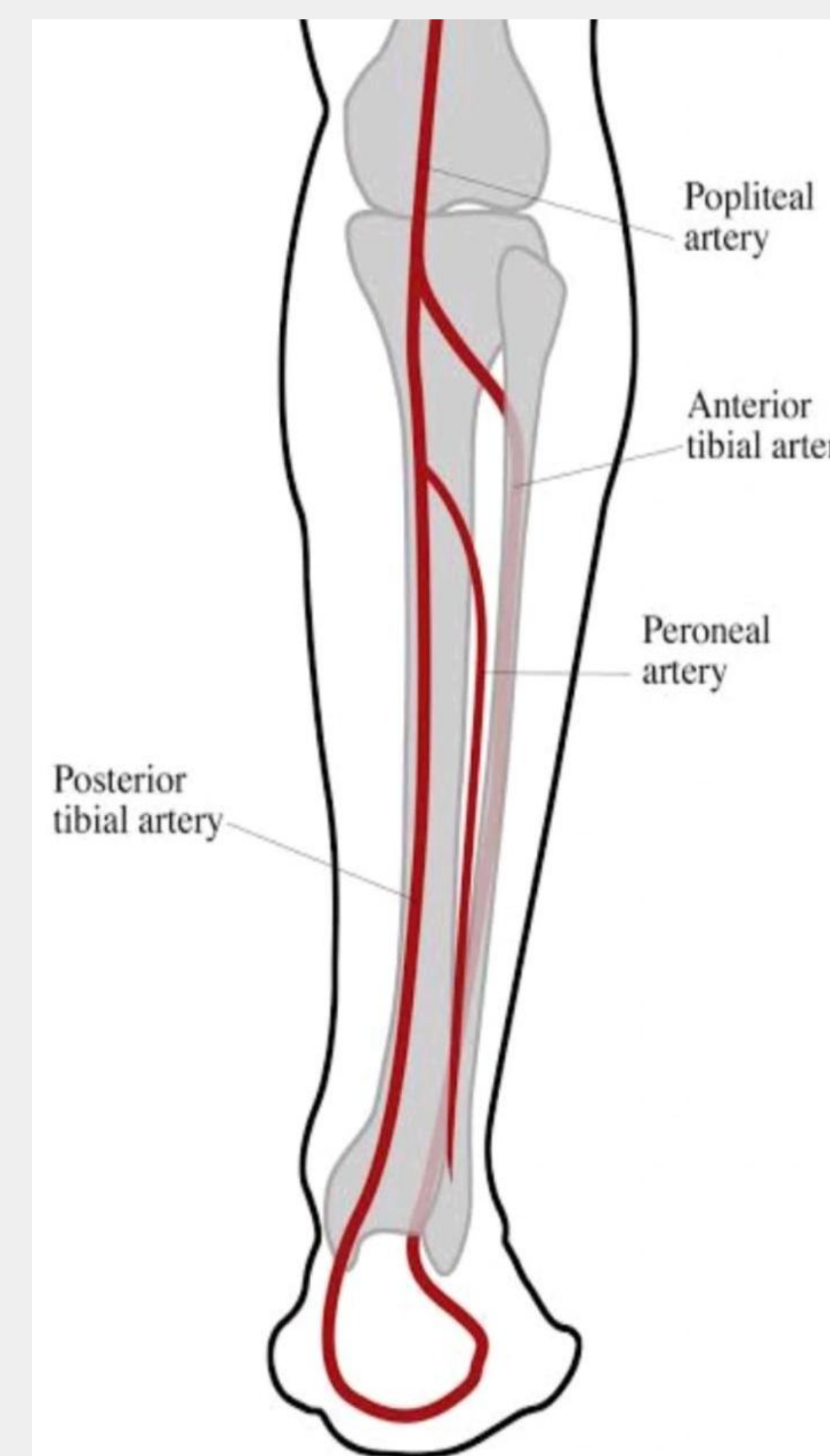
## Case Description

- A previously healthy 17-year-old boy presented to the emergency department with acute onset right calf pain that began overnight and steadily worsened over 12h.
- Vital signs were normal. Examination showed tenderness of right distal extremity and circumferential asymmetry, but intact distal pulses.
- Abbreviated ED course below:

- 12:39 - Patient arrived
- 12:42 - Patient roomed
- 12:49 - Wells score 3
- 14:15 - Duplex final read
- 14:53 - MRI lower leg with contrast ordered
- 19:13 - MRI final read
- 19:17 - CTA lower extremity with contrast ordered
- 19:42 - CTA exam begun
- 21:55 - Vascular surgery consult placed
- 21:56 - CTA lower extremity final read
- 22:04 - Vascular surgery consult complete
- 23:12 - Case request for 4-compartment fasciotomy
- 23:54 - Patient transferred to pre-procedure



**Figure 1.** (A) MR imaging of the right lower extremity demonstrating lobular T2 hyperintensity (black arrow) and 15.2 cm (craniocaudal) hematoma with associated soft tissue hemorrhage immediately posterior to the proximal peroneal artery, concerning for pseudoaneurysm, axial view. (B) CT angiography, 3D reconstruction shown with inset image of pseudoaneurysm under magnification (white arrow).



**Figure 2.** The peroneal artery (also termed the fibular artery) is the posterior lateral branch of the tibial-peroneal trunk in the lower extremity just distal to the popliteal fossa. The peroneal artery (along with the anterior tibial artery) is the vascular supply to the lateral compartment of the lower leg

## Interventions

- The patient was taken to surgery for right lower extremity four-compartment fasciotomy, evacuation of foreleg hematoma, ligation of right peroneal artery branch pseudoaneurysm, and primary closure of anterior/lateral fasciotomy incision (Figure 2).
- The patient returned to the operating room on post-operative day two for successful closure of remaining open fasciotomy sites and later discharged home on hospital day 4 with plan for outpatient physical therapy.

## Conclusion

- A pseudoaneurysm of the peroneal artery is characterized by localized disruption of the peroneal artery wall, and formation of a pulsating, encapsulated hematoma communicating with the artery.
- Identification of spontaneous pseudoaneurysm should prompt consideration of predisposing disorders, including Behçets and vascular EDS
- Prompt diagnosis is critical to avert progression to compartment syndrome and/or disability; if leading diagnosis, defer MR for CT angiography

## References

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