Case Presentation

- A 36-year-old female presented to emergency room with acute leg pain concerning for acute limb ischemia.
- Her past medical history was significant for epilepsy, migraine headaches, and triple antibody positive antiphospholipid antibody syndrome (APS). She had pulmonary embolism (PE) at the age of 27 years which led to diagnosis of APS. She was started on rivaroxaban.
- One year Post PE, while on rivaroxaban, she developed an exercise induced PE. She underwent right pulmonary thromboendarterectomy.
- In 2022, she developed an acute arterial occlusion in left distal popliteal artery, posterior tibial and dorsalis pedis artery for which she underwent catheter-directed ITP and thrombectomy. She was discharged on warfarin with goal INR at 3-4.
- However, one month later, she developed worsening left leg pain. CT angiogram showed progression of arterial clot, now involving left distal popliteal artery, posterior tibial and dorsalis pedis artery for which she underwent catheter-directed ITP and thrombectomy. She was discharged on warfarin with goal INR at 3-4.
- In 2023, she developed an acute arterial occlusion in left distal popliteal artery, posterior tibial and dorsalis pedis artery for which she underwent catheter-directed ITP and thrombectomy. She was discharged on warfarin with goal INR at 3-4.
- In 2024, she developed an acute arterial occlusion in left distal popliteal artery, posterior tibial and dorsalis pedis artery for which she underwent catheter-directed ITP and thrombectomy. She was discharged on warfarin with goal INR at 3-4.
- In 2025, she developed an acute arterial occlusion in left distal popliteal artery, posterior tibial and dorsalis pedis artery for which she underwent catheter-directed ITP and thrombectomy. She was discharged on warfarin with goal INR at 3-4.
- In 2026, she developed an acute arterial occlusion in left distal popliteal artery, posterior tibial and dorsalis pedis artery for which she underwent catheter-directed ITP and thrombectomy. She was discharged on warfarin with goal INR at 3-4.

Treatment and Outcome Monitoring

- The standard treatment of venous thrombosis in APS is long term administration of warfarin +/- low dose aspirin. For the first thrombotic event, the standard intensity warfarin is give with a target INR between 2.0-3.0.1
- There is an agreement on the contraindication on the use of DOACs, and in specifically rivaroxaban, in patients with arterial APS and/or triple positivity APS, however it can be used in patients with venous thrombosis and/or non-triple APS patients. 1
- Treatment guidelines for thrombotic venous APS are weak and almost nonexistent. However, patients with single or double positivity APS may be a candidate to DOACs, after a shared informed decision with patients and physician, especially in patients who decline or have contraindications to warfarin. 1
- The patients who are treated with warfarin, LMWH is used as bridging anticoagulation. If the patient is on standard-intensity warfarin and recurrent thrombosis occurs, we should think about high-intensity warfarin and LMWH treatment. The anticoagulant-refractory thrombotic APS is that in which thrombosis recurs while the patient is taking high intensity warfarin or standard treatment dose LMWH. So, these patients should put on high intensity and subsequently escalated to high intensity LMWH, approximately one quarter and one-third above standard intensity dose LMWH respectively.3
- Warfarin and DOACs should be avoided in thrombotic APS patients with thrombocytopenia. LMWH should be considered instead. 3 In patients with high bleeding risks, even heparin is preferred over LMWH. 3

Venous thrombosis – Warfarin with target INR 2-3
Arterial thrombosis – Warfarin +/- low dose aspirin with target INR 3-4

First recurrent thrombosis
- High-intensity LMWH, split-dose
- Escalated high-intensity LMWH, split-dose
- Fondaparinux

Re-thrombosis despite warfarin and LMWH
- IVIG CAs / PEX
- Complement inhibition
- Surgery

Monitoring

- The monitoring of patients with APS is difficult due to reaction of thromboplastin reagents to lupus anticoagulant and prolonged basel clotting time (1). Using an LA-insensitive thromboplastin for PT-INR is an alternative option patients taking warfarin.
- However, the most appropriate assay for monitoring LMWH and heparin in APS is the anti-Xa chromogenic assay which is unaffected by LA. 3

Case Presentation

Figure 1a, 1b showing initiation of acute limb ischemia while patient is on Rivaroxaban

Figure 2a, 2b Acute limb after patient is on warfarin for a month with therapeutic INR on admission

References