Novel Approaches in the Endovenous Management of Massive Ilio-Femoral Deep Venous Thrombosis

Bhaskar Purushottam MD, FACC
Monument Health Rapid City Hospital, Rapid City, SD, USA

Case Presentation

19 year-old woman presented with a massive left ilio-femoral deep venous thrombosis [extending from the distal inferior venacava to the lower segment of the calf veins] 14 days after giving birth to her second child. Her clinical picture was consistent with 'Phlegmasia Cerulea Dolens'. Following initial mechanical thrombectomy [Angiojet-Zelante] and catheter directed thrombolysis [24-hours of Alteplase at 2mg/hour], the relook venogram showed minimal improvement in flow with no improvement in symptoms.

Intravascular ultrasound confirmed occlusion of the left common iliac vein from right common iliac artery compression [May-Thurner syndrome] with significant thrombus burden. We went ahead and stented the distal IVC and the left common iliac vein. Repeat mechanical thrombectomy [using Penumbra CAT 8] followed with CDT:

A. Antegrade approach with lysis catheters from the left iliac to femoral veins [via left LSV and CFV].
B. Retrograde approach with a lysis catheter in the popliteal and deep calf veins via the proximal left femoral vein.

Following 12-hours of thrombolysis, there was significant improvement in flow with dramatic improvement in symptoms. The stent was widely patent. Follow-up ultrasound at one week and one month showed no residual thrombotic disease with a patent stent.

Intervention Highlights

To achieve optimal endovascular success in treating ilio-femoral DVT, it is very important to achieve good inflow and outflow. Our case demonstrates new approaches in the endovenous management of ilio-femoral DVT:

1. Stenting an occluded left common iliac vein despite significant thrombotic burden to improve outflow and efficiency of thrombolysis.
2. Placement of retrograde lysis catheter into the deep calf veins from the femoral venous access to improve venous inflow.