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Extensive DVT Resolution with Targeted USAT

Patient History

71-year-old female with massive swelling of left lower extremity and extensive DVT. Left total knee replacement two weeks prior.

- Venography in prone position confirmed the presence of occlusive thrombus in the entire left femoral and iliac veins, extending into the inferior vena cava.

Treatment

50cm (135cm working length) EkoSonic™ Mach4e Endovascular Device.

- Access was obtained through the left popliteal vein.
- Treatment zone covered the left femoral and iliac veins and extended into the inferior vena cava.
- 4 mg bolus of rt-PA
- rt-PA was infused through the EkoSonic™ Device at 1mg/hr for 14 hours.

Midpoint Results

After 14 hours of treatment and 18mg rt-PA:

- Venography showed resistant thrombus in the left common femoral vein and a persistent obstruction at the iliac caval junction preventing flow into the inferior vena cava.
- Mechanical thrombectomy followed by balloon dilation in the common femoral resulted in improved flow, but with some persistent thrombus.
- Three balloon dilations at the common iliac vein caval junction restored partial flow, but still evidence of thrombus.
- A 6cm EKOS catheter was then placed at common iliac vein caval junction and treatment restarted in the area of persistent stenosis and thrombus.
- rt-PA infused at a rate of 1mg/hr for an additional 24 hours.

Final Results

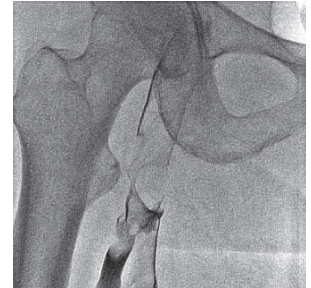
After an additional 24 hours of treatment and 24mg of rt-PA:

- No clot remaining in the femoral vein.
- Brisk flow restored into the inferior vena cava, with some residual stenosis in iliac vein.
- Inferior vena cava filter placed via right femoral vein approach.

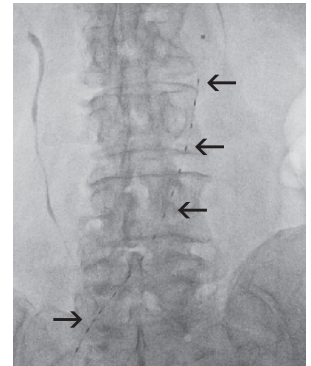
“With the help of ultrasound accelerated thrombolysis (USAT), massive lower extremity swelling with complete occlusion of IVC can be safely treated. This concurs with the excellent results I continue to see in the treatment of venous thrombosis disease with USAT.” Tod Engelhardt, MD

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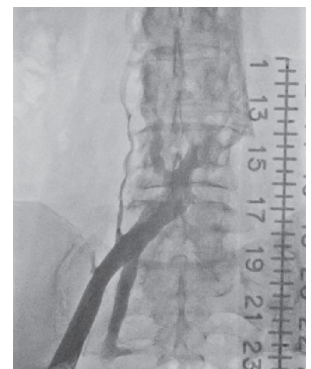
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Thrombus in left iliac vein and IVC



EKOS catheter placed through left femoral vein up into IVC



Flow restored in femoral vein, iliac vein, and IVC