Dramatic recovery of chronic non-healing ulcer secondary to recurrent unprovoked DVT by venous stenting

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Accepted 20 April 2014

DESCRIPTION

Common causes of pelvic venous outflow obstruction include deep venous thrombosis (DVT) and extrinsic compression of the iliac veins. Recurrent DVT can cause venous stasis dermatitis, ulceration and thrombophlebitis and risk of pulmonary thromboembolism which can be life-threatening.

We present an interesting case of a 38-year-old man who had undergone venous grafting in the past and had a history of recurrent left lower limb DVT. He presented to us with a non-healing ulcer over the left shin (figure 1) for the past 2 years with pain in the calf since 2 weeks. The peripheral pulses were normal and good volume and the ankle-brachial index was normal which essentially ruled out the possibility of an arterial disease.

A popliteal venogram (figure 2A and video 1) showed thrombosis of the deep venous system up to the junction of the left common iliac vein (CIV) and the inferior vena cava (IVC). The patient had no obvious risk factors for recurrent DVT, and the thrombophilia workup which included evaluation for bleeding and coagulation parameters and factor C, factor S and antiphospholipid antibody was negative. Diagnosis of acute on chronic DVT was contemplated.

Figure 1 Non-healing ulcer over shin.

Figure 2 (A) Baseline venogram showing thrombosis of the deep venous system up to the junction of the left common iliac vein and the inferior vena cava. (B) Check venogram after catheter-directed thrombolysis showing significant thrombus. (C) Venogram after stenting showing good flow.

To cite: Srinivas BC,
Kolhari VB, Agrawal N,
et al. *BMJ Case Rep*
Published online: [please
include Day Month Year]
doi:10.1136/bcr-2014-
204145

Video 1 Prone position venogram showing thrombus filled vein with restricted flow.

Video 2 Check venogram after catheter guided thrombolysis showing failed lysis and lack of antegrade flow.

A catheter-directed thrombolysis with the tip in the left femoral vein failed to restore good flow on the check venogram (figure 2B and video 2). A 0.018" terumo guide-wire was passed (video 3) into the IVC and the CIV was dilated with a 7×60 mm peripheral balloon. Two nitinol self-expanding peripheral stents (12×80 and 12×120 mm) were deployed across the left CIV and the external iliac vein. Good flow was achieved after the procedure (figure 2C, videos 4 and 5) and the venous ulcer healed (figure 3) within a week.

Immediate management of an acute episode of DVT involves systemic anticoagulation or thrombolysis followed by long-term prophylactic oral anticoagulation. Percutaneous intervention can be life-saving and can improve the quality of life and can provide a long-lasting and uncomplicated outcome.¹⁻⁴

Figure 3 Successful healing of the ulcer post-stenting.

Video 3 A 0.018' terumo guide-wire was passed into the IVC and the CIV

Video 4 Two nitinol self-expanding peripheral stents (12×80 and 12×120 mm) were deployed across the left CIV and the external iliac vein.

Video 5 Good flow was achieved after post dilation

Learning points

- ▶ Common causes of pelvic venous outflow obstruction include deep venous thrombosis (DVT) and extrinsic compression of the iliac veins. Recurrent DVT can cause dermatitis, ulceration and risk of embolism.
- ▶ Thrombolytic therapy forms the first line of intervention for most patients with uncomplicated DVT unless there are obvious contraindications to lysis.
- ▶ A venous stent is usually indicated for residual stenosis after thrombolysis or in some cases of extrinsic compression and if performed successfully it provides uncomplicated outcomes and rapid healing of venous ulcers in appropriately selected cases.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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