

Interventional recanalization of a chronic thrombotic occlusion of inferior vena cava and iliac veins following liver segment resection

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Introduction

Post-thrombotic syndrome (PTS) is a common complication following chronic thrombotic occlusion of the lower extremity and occurs in up to 50% of all patients. Approximately 6% of all PTS cases manifest in a severe form despite guideline-based therapy with anticoagulation and compression stockings.

Patient

A 35-year-old man underwent a liver segment (VII/VIII) and a Vena cava wedge resection during removal of an echinococcus cyst in September 2009. A few days upon surgery the patient developed a V. cava inferior-, as well as a bilateral V. iliaca communis /externa- and V. femoralis communis thrombosis. Consequently, he suffered from a severe form of PTS with painful lower extremity swelling, extended thoraco-abdominal collateral vein formation, and reduced walking distance. The patient has received anticoagulation and compression therapy ever since; however, no significant improvement of his symptoms could be observed. Here we present the performance and outcome of an interventional recanalization of the above mentioned chronic thrombotic occlusion.

Results

Pre-interventional diagnostic

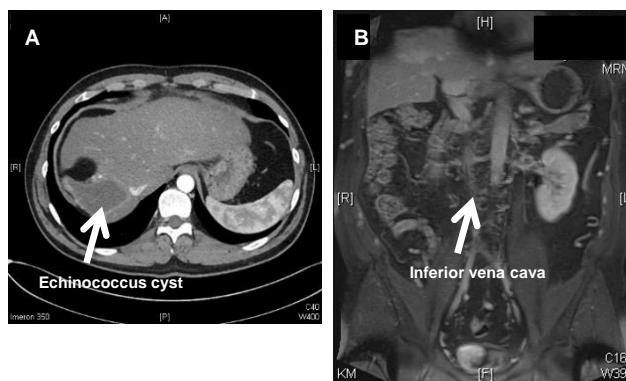


Figure 1. Magnetic resonance angiography (MRA)

A) Preoperative diagnostic including proof of the echinococcus cyst in the liver and B) evidence of the chronic inferior vena cava occlusion.

Phlebography

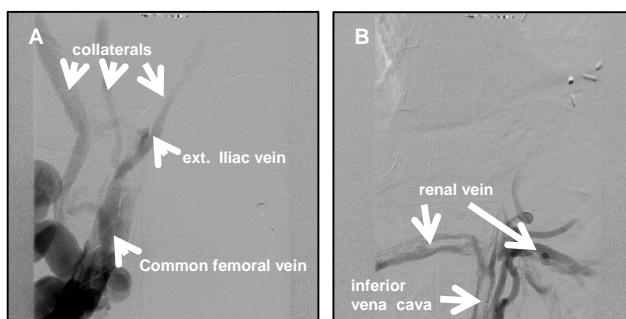


Figure 2. Phlebography of:

A) Common femoral vein right,
B) Inferior vena cava and left and right renal vein.

Intervention

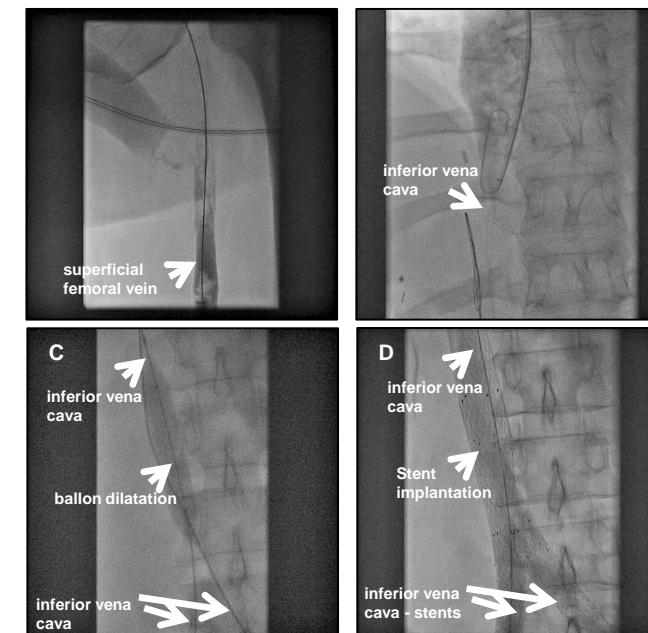


Figure 3. Intervention A) We used a popliteal access to recanalize the common femoral vein, ext. and com. Iliac vein as well as inferior vena cava. B) After a frustrated try to recanalize the inferior vena cava via popliteal vein, a new access via inferior jugular vein was used to successfully pass the inferior vena cava with the wire. C) After successful dilatation of the occluded veins, D) we implanted several stents in order to warrant a long term interventional success.

Discussion

This case shows that patients with severe PTS and chronic thrombotic occlusions of the lower extremity and the V. cava inferior can profit from such complex interventions at a reasonable risk.