

Cause-related strategy for superficial and saphenous phlebitis with one year follow-up.

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Background

Superficial or saphenous phlebitis is usually treated by use of compression stockings and anticoagulants. However, healthy veins rarely develop phlebitis. Most of these cases are detected later on to occur due to underlying venous insufficiency. This study examines a novel strategy including immediate exclusion of the source of reflux.

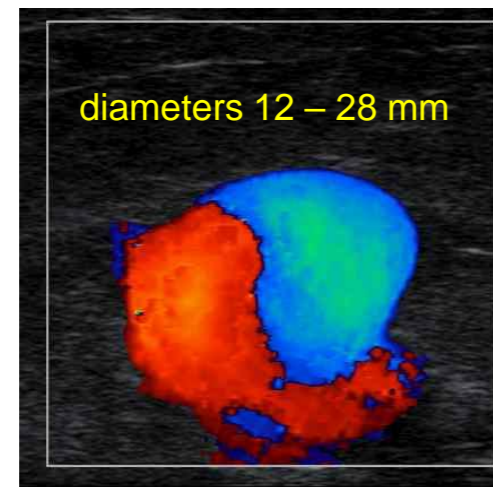


Fig. 1: case example of severe acute phlebitis based on insufficiency of GSV and side branches, C5

Patients and Methods

43 patients with saphenous (n = 28) and/or tributary phlebitis (n = 15) were included in this prospective study. Criteria: Obstructive phlebitis with relevant clinical symptoms (pain limiting daily activities), ultrasound proof of active or masked reflux. Exclusion criteria: Previous vein treatment < 3 months, DVT. Technical steps: 1) removal of thrombus by syringe aspiration or aspiration-supported thrombus expression, using PhleboCath F5 or peripheral venous access 14G - 17G, single or multiple; 2) termination of reflux beginning at the origin (GSV, AAGSV, SSV, perforator vein) using laser occlusion (810 - 1470 nm, 50 - 200 J/cm) and/or sclerofoam injection (Aethoxysklerol 1-2% or Biomatrix sclerofoam 1 - 2%); 3) oral analgetics (standard: Ibuprofene 400 - 600 mg, 3 x 1 p.o.) and local anti-inflammatory ointment (Diclofenac, below film bandage).

No anticoagulation (n = 30, no particular risks) or Rivaroxaban (Xarelto, 10 mg/d 3 - 5 d, n = 13). Follow-up including ultrasound was performed after day 3 and after 4, 8, 12, 26 and 52 weeks.



Fig. 3a: Tennis pain free after 3 days (with Venartis film bandage) b) at week 4, c) at week 12, skin colour and circumference almost normalized

	at first presentation	at week 8
GSV	8.1 – 28.8 mm (mean: 14.8)	5 – 16.4 mm (mean: 9.9)
AAGSV	6.2 – 13.4 mm (mean 9.9)	5.5 – 8.1 mm (mean 7.2)
SSV	6.3 – 9.5 mm (mean 8.7)	4.8 – 6.6 mm (mean 5.3)
Varices	7.8 – 22.4 mm (mean: 12.9)	3.5 – 7.9 mm (mean 6.4)

Tab. 1: Target vein diameters at first presentation and after 8 weeks

Results

Initial occlusion of the reflux source (laser treated) was obtained in all cases (43/43). **Relief of local pain, cessation of oral analgetics and of anti-coagulants was obtained within 0 – 5 days (mean: 2.8 d).** Diameter regression was the most impressive in superficial varices. (tab. 1). Within 6 months of FU, 41/43 cases (95.3%) required additional sclerofoam injections (2 – 6 ml). Between month 6 and 12 further sclerofoam injections (2 – 4 ml) were required in 12/43 cases (27.9%). There was no complication, in particular no case of DVT during FU.

Discussion

Healthy veins rarely develop phlebitis. The presented concept of “immediate attack” depends on the presence of a patent reflux source, and on the accuracy of the diagnosis of precedent vein insufficiency. This may be difficult, as thrombus will obscure reflux.

A randomized controlled study comparing traditional and novel strategies was denied by our clinic’s ethics committee but may be feasible and interesting for other investigators..

Conclusions

Phlebitis in cases with detectable and patent source of reflux may be treated like common insufficiency, ultrasound-guided microfoam sclerotherapy preferred. As usually some vital endothelium is reversibly covered by thrombus and thus protected against thermal or chemical attack, **“maintenance injections”** will be required in the majority of cases. The reported strategy **provides very fast clinical improvement** and needs just a very short anticoagulation period.

