

## THERAPY

## Urgent situations in phlebology – variceal bleeding and it's treatment

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### Abstract

**The aim of this study was to compare the therapeutic results of patients whose bleeding points were sutured and patients treated with compression sclerotherapy. In the years 1983–2000, 56 patients with profuse bleeding from varicose veins were treated. In a subgroup of patients with compression sclerotherapy – Fegan's way (32 patients), bleeding wound was healed completely within 7 days on average (5–13). All ulcers have healed within 2 months. The presented approach used is a surgical procedure (stitch, removal of large varicosities). Fegan's technique of compression sclerotherapy, with a detergent sclerosing solution (S.T.D.), enables to complete sclerotherapy of all pathological reflux points during 1–2 visits not only with good results, but also as a one-day surgery, keeping the patient work (Ref: 7).**

**Key words: bleeding, varicose veins, compression sclerotherapy.**

This type of bleeding is very rare, well-recognized, but an indication for urgent treatment and possibly lethal. The aim of this study was to compare the therapeutic results of patients whose bleeding points were sutured and patients treated with compression sclerotherapy. Bleeding from varicose veins was divided into three types: spontaneous, related to trauma or subcutaneous. Spontaneous, external bleeding is considered the most dangerous (5).

Patients can die as a direct result of bleeding and they often complain for multiple bleeding episodes during months and years. Recognizing the potential lethality of this condition, patients should be advised to undergo therapy after the first episode of bleeding.

### Patients and methods

In the years 1983–2000, 56 patients were treated (mean age 64 years, range 36–85 years), 46 women and 10 men with profuse bleeding from varicose veins.

In 42 cases (75 %), the bleeding point was the foot (19–34 %) and ankle (23–41 %), 12 (21 %) patients bled from the calf and 2 (4 %) patients from thigh. 3 patients were pregnant at the time of treatment and 8 patients were bleeding on base of venous stasis ulcer from an uncertain size of vein. In 43 patients (76 %), the bleeding vein was less than 1 mm in diameter,

in the rest bigger than 1 mm, but never bigger than 4 mm. None of the patients had an evidence of coagulopathy or congestive heart failure. In 49 patients (87 %), the evidence of injury was minimal, 2 patients were injured by animals (4 %). 32 patients were treated with compression sclerotherapy using the detergent sclerosing solution Fibrovein (Hereford, England, sodium tetradecyl sulfate) in 0.2 % concentration, injected in veins surrounding the bleeding point with thirty-gauge needle attached to 2cc syringe. Sclerosant is always injected using an air-bubbles-foam technique. The treated leg is elevated in 30 degrees. In couple of minutes the bleeding stopped and the compression was applied.

On the next day was the patient examined by a color duplex scan; reflux points were identified and Fegan's compression sclerotherapy with S.T.D. was performed (4). Uninterrupted compression was applied for 6 weeks with a forced mobilization of treated patients. Injection and compression resulted in prompt local "vein thrombosis" in all patients.

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If the patient has had an ulcer, local pads soaked with Ringer solution and the compression with crepe bandage was used after sclerotherapy.

In the subgroup of 24 patients (43 %), the bleeding points were sutured in an emergency department. Usually a cross stitch with non-resorbable suture material was used and a compression was applied afterwards.

## Results

In the subgroup of patients, where compression sclerotherapy-Fegan's way was done (32 patients), the bleeding wound was healed completely within 7 days (5–13) on average. All ulcers have healed within 2 months. In patients treated surgically (24 patients), the average time of healing was 18 days (13–23). All patients (100 %) treated by a sclerotherapy were examined after 3 months, 28 pats (88 %) after 12 months and 24 pats (75 %) after 3 years, with no recurrence of bleeding in the originally affected area. All patients treated surgically (100 %) were checked after 3 months and 19 patients (79 %) were checked after 3 years, with re-bleeding in treated areas in 37 % (7 patients). The differences are significant ( $p < 0.05$ ).

## Discussion

Bleeding as an indication for the treatment of varicose veins is very unusual, but it is a phlebological emergency, which could be lethal. Evans (1) found that most of the fatal outcomes involved elderly patients with chronic ankle ulceration and signs of chronic venous insufficiency. Compression sclerotherapy is a safe, cost-effective treatment on an out-patient basis with an excellent result which could be used in pregnant and elderly patients. There is a general agreement that variceal bleeding should be treated, but little is published detailing the techniques (6).

The presented approach used a surgical procedure (stitch, removal of large varicosities). Fegan's technique of compression sclerotherapy, with a detergent sclerosing solution (S.T.D.) (4), enables to complete sclerotherapy of all pathological reflux points during 1–2 visits not only with good results, but also as a one-day surgery, while keeping the patient work (2, 3).

Suture and ligation of the bleeding side delayed the healing process when compared to simple compression. Concomitant injection – compressive sclerotherapy proved to be a successful and permanent method for treating these veins. Recurrent bleeding developed in none of the patients, neither in patients with previous episodes of bleeding.

Varicose veins are known to worsen during pregnancy and bleeding can start not only from venous ulcers. Compression sclerotherapy using sodium tetradecyl sulfate is safe, with no fatal toxicity after 4th month of pregnancy.

Initial treatment of the bleeding blue bleb requires not only compression of the tiny open vessel but strictly intravenous instillation of low-concentrated sclerosant to close the nearby localized reflux point. Later, a complete compression sclerotherapy provides a permanent method of obliterating the thin-walled veins and prevents future bleeding. It is essential to treat the entire incompetent venous system as well as the bleeding side itself.

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