

## The surgical therapy for the lower limb varices in day surgery

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### Abstract

1775 varicose patients (1318 female, 457 male) with mean age 47.7 years have been operated in One Day Surgery in III Department of General Surgery and in the Phlebology Centre of the University of Siena between June 1 1985 and May 30 1996. 1274 (71.7%) patients underwent internal saphenectomy of which 947 (53.3%) through short stripping, 327 (18.4%) through long stripping, 106 (5.9%) external saphenectomy, 90 (5.1%) revision of the saphenous-femoral junction, 258 (14.5%) phlebectomies; 16 (0.9%) external valvuloplasty sec. Mancini, 31 (1.7%) other operations. All patients were discharged on the same day of operation. The obtained instrumental and clinical results show an improvement of haemodynamics, with 21% varicose residue for incontinence perforating veins on long stripping internal saphenectomy. In their experience in the surgical treatment of varicose veins, the authors affirm that the policy of One Day Surgery is not greatly affected by the surgical technique adopted but more so by the anaesthesiological technique used and the clinical condition of the patients. © 1997 Elsevier Science Ireland Ltd.

*Keywords:* Varicose veins; Surgical treatment; One day surgery

### 1. Introduction

From the time that humans began holding themselves erect, varicose disease has been a pathological condition that afflicts man.

In Western Countries, Italy included, more than 20% of adults suffer from chronic venous insufficiency of the lower limbs' superficial circulation. This pathology, second only to influenzal syndrome as the cause for the loss of more than 1 working day [1].

The therapy for this disease is based on three main treatments: surgical treatment, sclerotherapy and elastic compression.

In the past, surgical treatment required hospital admission which sometimes lasted about one week with the patient confined to bed.

At present, the progressive reduction of the available economic resources, above all for medical services, and the consequent expense reduction for hospitals, have resulted in a further reduction of the beds available.

That is why the operations are performed on a day surgery basis [6].

The surgical therapy for the limbs varices has been treated as an outpatient operation for over 10 years at the Interdepartmental Center for Research, and the Phlebolympological Therapy and Rehabilitation Centre of the University of Siena which is directed by Professor Sergio Mancini. At present, after the introduction of the DRG (disease related groups) the disease is also treated in the Day Hospital.

### 2. Materials and methods

At the above mentioned centre from June 1985 to May 1996, 1775 patients suffering from chronic venous insufficiency of the lower limbs superficial circulation, have undergone surgical therapy. 1318 (74.3%) of them were female and 457 (25.7%) were male. Age ranged from 18 to 90 years; the average being 47.7 years.

The patients were treated only when the surgeon suggested surgical treatment to resolve their phlebological symptoms and after a careful selection of all those who asked for a medical examination at the center.

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During the pre-operative preparation, patients underwent hematochemical tests, ECG and, in the presence of respiratory insufficiency, a chest X-ray and an anaesthesiological evaluation.

Patients over seventy and those suffering from cardiopathy, bronchopneumopathy, nephropathy, metabolic disease, heavy obesity have recently been excluded from surgical treatment at the center and have been received in the operating theatre at the General Surgery III, where there is a better monitoring system and they can receive proper assistance. The day before the treatment, the patients usually undergo a further and more careful check up of their varicose pathology.

In addition to clinical examination, it includes a haemodynamic test of the lower limbs' venous circulation through a non-invasive instrumental diagnosis, such as the Doppler Examination and the HR Echography [2,4].

Since 1993 the Ecocolordoppler and since last February the Reflected Light Rheography through Angioflow have also been available.

At about 8 a.m. patients scheduled for treatment undergo a mapping of their varicose using a marking pen.

The anaesthesiological phase follows [3]. At present, the methodology suggests the trunk anaesthesia which permits the rapid recovery of the treated limb and the discharge of the patient. The anaesthetist sometimes chooses selective spinal anaesthesia or epidural on a technical basis or on the basis of the patient's clinical situation, which often includes large varicose veins which require extended operating time and selective spinal or epidural anaesthesia.

Local anaesthesia is frequently used when the surgeon has to treat both unilateral or bilateral multiple varices on the thigh and/or leg, according to Muller's technique.

At the beginning of our experience, general anaesthesia was also employed; nowadays, it is limited to those patients suffering from cardiopneumopathies or from a minor hepatic or renal insufficiency.

The surgical treatment starts with a small inguinal cut of about 3–4 cm, parallel to the inguinal ligament. Once the large saphenal vein is located, it is put on a tape, then the surgeon starts the crossectomy with collateral ligature and the section of the veins.

As soon as he gets to the femoral vein, he divides the saphena vein between two forceps and ligates the stump near the femoral vein. Then he puts a disposable plastic stripper in the saphena, following the caudal-skull direction. He then makes a distal cut usually on the upper third of the leg during short stripping and on the ankle during long stripping. When necessary, the surgeon avulses multiple varices through small cuts, according to Muller.

Finally he sutures the cutaneous cuts and puts steri-strips on the small cuts. After treatment the limb is tightly wrapped with a stretchable bandage.

After about 2 h the treated patients are allowed to walk about and are usually discharged 4–6 h after the treatment. The post-operative check up are at 1, 7 and 30 days together with a final one after 6 months. It is suggested to each patient that he wears a leg support with a second compression ratio for about three months.

### 3. Results

The following data belong to a detailed analysis of 1775 surgical treatments at our Center of Phlebology since 1985:

|             |  |
|-------------|--|
| 947 (53.3%) | Internal saphenectomies through short stripping            |
| 327 (18.4%) | Internal saphenectomies through long stripping             |
| 258 (14.5%) | Mono and bilateral multiple varices of thighs and/or legs  |
| 106 (5.9%)  | Superficial saphenectomies through short or long stripping |
| 90 (5.1%)   | Check up of the saphenous-femoral arch                     |
| 18 (1.1%)   | Treatments of venous ulcers                                |
| 16 (0.9%)   | Valvularplasties   |
| 8 (0.4%)    | Felder's treatments  |
| 3 (0.2%)    | Isolated crossectomies                                     |
| 2 (0.1%)    | Check up of the saphenous-popliteus                        |

As far as the kinds of anaesthesia is concerned, most treatments have been performed with local or regional anaesthesia. In the last three years trunk anaesthesia has been clearly prevalent:

|             |                      |
|-------------|----------------------|
| 858 (48.3%) | Trunk anaesthesia    |
| 339 (19.1%) | Epidural anaesthesia |
| 235 (13.2%) | Spinal anaesthesia   |
| 221 (12.4%) | Local anaesthesia    |
| 122 (6.9%)  | Total anaesthesia    |

Thanks to modern anaesthetic technology which allows immediate post-operative ambulation, about 98% of the 1775 patients were discharged the same day they underwent treatment.

This technology avoids the complications associated with general anaesthesia, such as water retention, nausea, vomiting, indisposition and vascular and bronchopulmonary complications.

No operative or post-operative mortality was recorded. 40 patients (2.2%) were detained at the hospital for a short period because of the onset of cephalgia caused by the rachianaesthesia.

#### 4. Conclusions

In the United States and all over Europe, Day Hospital Surgery has an important place, particularly because it decreases hospital expenses.

Varicose disease is a benign affliction and is generally treated using local or regional anaesthesia on an outpatient basis. Nonetheless, the habitual care taken in patient selection, reception and psychological preparation for treatment is essential. This must not be ignored because varicose vein surgery can be undertaken in a D.H. or on an outpatient basis [5,6].

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