

SPECIAL ARTICLE

SURGICAL TREATMENT OF VARICOSE VEINS

John G. Shellito, M.D.* and Aydın Aytaç, M.D.**

Regardless of etiology, the term varicose veins implies a progressive degenerative disease affecting the walls and valves of superficial veins in the lower extremities. While the progressive nature of this disease is recognized, its unpredictable rate of progression has prompted many methods of treatment in the past. At present the treatment of varicose veins can be divided into two categories : 1. conservative, 2. surgical. Conservative treatment consists of rest, elevation and elastic bandages or stockings for asymptomatic extremities and is not very satisfactory. The surgical treatment of varicose veins has been influenced by changing concepts during the past decade regarding the efficacy of the various ligating, injecting or stripping procedures. It has been established that the greater the extent of obliteration of the superficial veins, the better the long term results.

This report of 147 patients treated surgically is presented to emphasize the present concept that the complete stripping operation is the procedure of choice.

Selection of Cases

Candidates for a complete stripping operation include those patients with incompetent superficial veins who have 1. chronic superficial stasis, 2. stasis dermatitis, 3. actual or imminent stasis ulcer, 4. cosmetic lesions associated with large varicosities. Among the patients reported below, no age consideration was necessary. Asymptomatic varicose veins were treated conservatively.

Contraindications for operation include : 1. acute or recent thrombophlebitis in deep or superficial veins, 2. acute deep vessel thrombosis, 3. pregnancy, 4. marked arterial insufficiency, 5. cellulitis. The deep veins are usually competent unless the patient has

From the Midwest Medical Research Foundation and St. Francis Hospital, Wichita, Kansas.

* Executive Board Member Midwest Medical Foundation and Thoracic Surgeon at St. Francis Hospital, Wichita, Kansas.

** Thoracic and General Surgeon, Ankara University Hacettepe Medical Center and Hacettepe Children's Hospital. (Formerly Chief Resident Surgeon, St. Francis Hospital, Wichita, Kansas.)

had iliofemoral thrombophlebitis, which disease is not a permanent contraindication in itself if later competency of deep veins is established.

The major problem in differential diagnosis lies in establishing a cause and effect relationship between evident varicose veins and symptoms or signs. Pain caused by arthritis, mechanical foot problems, peripheral arterial disease, or peripheral neuropathy may coexist with asymptomatic varicose veins. The edema caused by congestive heart failure must be excluded before surgical treatment of varicose veins is undertaken but nephritic edema rarely presents a diagnostic problem. Because other signs of nephrosis are present lipedema may be mistaken for chronic venous insufficiency although asymptomatic varicose veins are usually obscured by fat in such cases. When obesity or overlying fascia obscures varicose veins, caution and judgment are necessary to distinguish the extent of venous involvement. Because striking obesity so often modifies judgment regarding severity of symptoms, and complicates surgical technique and results, it should be considered a contraindication to operation except in the presence of varicose ulcer. Other causes for ulceration coexisting with asymptomatic varicose veins must be considered in all cases of varicose ulcer. A large acquired arteriovenous fistula is easily differentiated from a localized varicosity; however, small multiple arteriovenous fistulae are difficult to recognize and should always be suspected in cases of so-called congenital varicose veins.

Treatment

The object of the surgeon is obliteration of the greater and lesser saphenous systems. Prior to surgery, with the patient standing and the veins distended, all veins which are tributary to both saphenous channels are marked on the skin for ligation or removal. So-called blow-out areas, which indicate perforating veins to the deep circulation, are identified for ligation. Through a groin incision, the greater saphenous vein is dissected to the saphenofemoral juncture, and all tributaries ligated as far distally as the incision allows. The greater saphenous system is stripped between ankle and groin, and all perforating veins are ligated. If necessary, the lesser saphenous system must be ligated at the saphenopopliteal juncture, and its perforating veins ligated in similar fashion.

Stripping is often feasible in several areas of both systems; veins of the posterior calf also should be stripped whenever possible. As

many as 10 to 20 incisions on a single leg may be necessary to ligate perforating veins, and to accomplish stripping. Fewer ligations are necessary when complete stripping is possible.

Postoperative bleeding is controlled with pressure dressings of mechanic's waste and Ace bandages. Vaseline gauze is used beneath the pressure dressing if a varicose ulcer is present. If the varicose ulcer is large, a split thickness skin graft may be applied simultaneously if desired, but it is not recommended prior to ligation and stripping.

Ambulation is urged within 24 hours, and the average hospitalization is seven days; partial disability may last four to six weeks. Injection therapy may be started one month postoperatively. Perforating or isolated tributary veins are injected with two or three cc. of five per cent sodium morrhuate, with a limit of five or six cc. at each visit. Injection therapy prior to surgery is not recommended, as results are unsatisfactory, and later stripping becomes mechanically more difficult.

Results

Complete stripping operations were performed on 147 patients at the Wichita Clinic from 1950 to 1954 inclusive. Of these, 20 patients had a unilateral procedure. The oldest patient was 78 years of age. Twenty-two patients had had other operations for varicose veins elsewhere, and 23 additional patients had had previous injection therapy. Twenty-eight patients had varicose ulcers, of whom 23 patients experienced healing as a result of surgery.

Of 147 patients, 98 (66 per cent) had good results, as judged at least six weeks postoperatively by function of the extremity without pain or swelling, and improvement in cosmetic appearance. Fair results were obtained in 42 patients, (19 per cent); these had residual swelling, or required further injection therapy for residual perforating veins. Many patients with fair results were given good results by postoperative injection therapy. Of the 147 patients, 7 patients, (five per cent) had poor results. The group of patients with poor results postoperatively included three with recurrent ulcer, two with unhealed ulcers, one with deep thrombophlebitis, and one patient in whom varicose veins recurred during pregnancy. There was no occurrence of pulmonary embolism in this series.

None of the patients in this series had deep venous insufficiency at the time of surgery. Others¹ have reported similar results from the complete stripping operation in cases in which deep venous insufficiency was associated.

Summary

The procedure of choice in the surgical treatment of varicose veins combines : 1. ligation of the greater saphenous vein at the sapheno-femoral juncture, 2. ligation and complete stripping of the lesser saphenous vein when necessary, 3. complete stripping of the greater saphenous vein, 4. removal by stripping or dissection of involved veins. One month postoperatively, small tributary or perforating veins may be injected with sclerosing solution, if required. Injection therapy for varicose veins, or skin grafts for varicose ulcers, is not recommended prior to ligation and stripping.

REFERENCES

1. Myers, T.T., and Smith, L.R.: Results of the stripping operation in the treatment of varicose veins, Proc. Staff Meet. Mayo Clin. 29 : 583, 1954.