

Cryostripping

More and more people suffering from varices of the lower limbs seek information on new, alternative therapies for this disorder. The majority of patients obtain information on therapeutic modalities from their own kith and kin. The information obtained in this way is not encouraged to make rapid decision on surgical operations, as they often result in deforming post-operative scars.

The need for minimal duration of the treatment is also the reason to seek new therapeutic methods. Many individuals cannot afford a few weeks away from work (10-day hospitalization followed by rehabilitation period). It results from concern for work, own business matters or studies. A numerous group of patients seeks other therapeutic methods as they are afraid of stay at hospital and anaesthesia. People seek methods allowing them to leave hospital immediately following effective treatment. Methods of management of varicose disease may be divided into two categories: conservative and invasive.

➤ Conservative management includes elevation of the limb, compression therapy, i.e. use of bandages or elastic stockings (our clinic co-operates with the firm of dr Sawlewicz from Gdańsk). High vitamin, fibre rich diet and oral phlebotropic drugs, as well as topical gels and ointments should be used concomitantly.

All these measures act prophylactically and alleviate symptoms of varicose disease, but they are unable to eliminate existing varicose veins.

- It may be attained only by invasive methods.
- The one of them is sclerotherapy, or obliteration of varicose veins by an injection of substances into the varicose lumen, which should induce aseptic inflammation of the venous wall. It leads to obliteration of the varicose vein. This method presents a potential for multiple complications such as inflammatory and thrombotic conditions, allergic reactions, including shock, and, first of all, recurrence of symptoms caused by recanalization or spontaneous revascularization of varicose veins. In our clinic this method is designed only for very small, intracutaneous varices (web veins) and, first of all, for teleangiectasia or dilatation of small vessels.
 - Surgical elimination remains, however, the pillar of treatment of varicose veins. Initially, a longitudinal incision of the skin followed by excision of long segments of the great saphenous vein (Mandelung operation) or ligation of the outlet of the great saphenous vein (Trendelenburg operation).
 - Stripping or subcutaneous extirpation of the vein was a major breakthrough in surgical techniques. It was initiated by Babcock in 1905 and then modified by Homans, Dodd,

Cockett and Linton; unfortunately, stripping became the most commonly used method for treatment of varicose disease. It consists in an insertion of metal line with an olive-shaped ending into the venous lumen, followed by brutal extirpation of entire vein. The remaining varices of collateral branches and perforators are resected via a series of incisions and additional extirpation. This method, commonly used in Polish hospitals, requires long term (several days) hospitalization, anaesthesia and results in multiple, deforming scars.

- Miniflebectomy is a major progress in effective treatment, but, first of all, in improvement in esthetic effects. This technique consists in extraction of varices using special small hooks through very small incisions of the skin. Unfortunately, this technique is unsuitable for varices situated farther from the puncture and it does not eliminate perforators, i.e. anastomotic veins, which bring the superficial and deep veins into communication with each other and are responsible for development of varices.
- At present, cryosurgery is a one known method of elimination of varicose veins, which meets patients' and doctors' expectations. It allows to get rid of the disease with minimal damage. It results in removal of perforators without deforming scars (miniflebectomy technique has been applied). It is also unnecessary to stay at hospital and undergo anaesthesia. This technique is based on insertion of the probe through a very small incision of the skin. The ending of the probe decreases temperature to -80°C , resulting in cryoapplication effect, i.e. sticking of the surrounding tissues onto the probe. Then the Babcock's idea is applied, i.e. extirpation, but just frozen varicose vein. The mystery name cryostripping has been decoded as *Krios* - in Greek it means cold, frost - plus stripping. The benefits for patient and also for surgeon are obvious. In order to remove the varicose vein, cryoprobe may be introduced into the lumen of large varicose vein, or may be only in external contact with the vessel. It is an unique method allowing removal of varices after previous sclerotherapy, i.e. injection of obliterating substances. A low temperature exerts an analgesic effect with simultaneous occlusion of small vessels, resulting in prevention of intraoperative bleeding. A design of the probe allows the surgeon to obtain an approach to all varicose veins without the necessity of additional incisions of the skin. In our clinic, this method became an ideal measure in the treatment of varicose ulcers, complications of varicose disease. In these cases, this technique is absolutely competitive for classic, very drastic Linton operation (skin incision from the knee until the ankle), or a novel - but very expensive - method of endoscopic ligation of perforators.

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For about 30 years I am engaged in surgical treatment of varices. I have performed a several hundreds of traditional operations. For a few years, I remove all varices using only cryosurgery,

even in the very advanced stage with varicose ulcers (VI, the highest degree in the CEAP scale). A number of patients, who underwent this surgery exceeds 1200.

Based on my own experience and literature findings I state, that an incidence of relapses after classical methods reaches 40%, whereas following cryosurgery it does not exceed 6% (Milleret - Erbe Medical Lyon, 1993).

Decision belongs to the patient.

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