

MINIINVASIVE APPROACHES IN VARICOSE VEIN SURGERY

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Authors present their own experience with the treatment of chronic venous insufficiency. Between August 1995 and November 1998 they operated on 318 patients for the disease of venous system. In 28 patients (i.e. 9%) they performed 30 miniinvasive interventions – 8 x retroperitoneoscopic lumbar sympathectomy and 22 x endoscopic subfascial dissection of vein perforators. The rest of patients (91%) were treated by means of classical operations on superficial venous system.

INTRODUCTION

Advanced stages of chronic venous insufficiency pose an important health and socio-economical problem. As many as 2% of the population suffer from *ulcus cruris*. In pathophysiology of advanced stages of chronic venous insufficiency a significant role is played by the lack of pressure decline when the muscular pump is in function. As a consequence of venous hypertension there appear characteristic alterations of skin, subcutis and fascia, especially in the ventromedial area of the distal third of crus. From the viewpoint of etiology congenital causes are rather rare and they usually induce primary or secondary varices. Anatomically, superficial, deep or communicating venous system may be affected or the combination of all the mentioned systems. Surgical treatment is successfully applied when superficial or communicating veins system is affected, whilst deep venous system is treated almost exclusively in a conservative way. Surgical management of chronic venous insufficiency offers choices within many curative procedures. Recently also miniinvasive methods are used – these include endoscopic subfascial dissection of venous perforators⁴ and retroperitoneoscopic lumbar sympathectomy^{5,6}.

METHODS

Endoscopic subfascial dissection of perforators (ESDP)

We use the equipment by Olympus.

The operation starts with a short (approx. 3 cm) incision in the ventromedial area of the proximal third of crus. We penetrate through fascia which is then cut. Afterwards, we shape – by fingers – a subfascial space where an optic equipment is inserted. After the gas instillation we have satisfactory view of the operation field. We seek the perforators and apply coagulation by

means of bipolar grasper which is followed by dissection with scissors.

Retroperitoneoscopic lumbar sympathectomy (RLS)

We use standard equipment by Olympus or Storz, no special instruments.

The patient lies on his/her side, the position is similar to that used in lumbotomy. There are three incisions necessary – the first one at the navel level, in the medial axillary line, the other two ventrocranially and ventrocaudally to the first one. We secure enough space in the retroperitoneum (by fingers) and we introduce a 10 mm trocar equipped with camera through the first incision. After pneumoretroperitoneum is bent two remaining 5 mm trocars are inserted. Sympathetic fibres are easy to locate – we cut a sample for histological examination.

Both the methods were widely published and discussed in the Czech republic as well as abroad^{2,4,5,6,7}.

RESULTS

Between June 1996 and November 1998 we performed ESDP in 22 patients (8 males, 14 females, the age range was 25–71, i.e. average 51). The patients were ranked as C4–C6 according to Hawaii classification, on average they spent 6 days in hospital (2–16 days). In 9 patients we performed also stripping of vena saphena magna, in 5 stripping of both great and small saphenous vein, in 1 patient stripping of vena saphena minor only. Additionally we performed nodes extirpation in two cases, RLS preceded in 3 patients. There were no complications prior to the operation and no complications afterwards. Incisions at the places of endoscope insertion healed per primam intentionem, there was no phlebothrombosis. Only in one patient (at the time of the surgery ranked as C5) there originated a skin defect at

the place of healed crural ulceration. However, the defect was soon eliminated at the outpatients department.

Between August 1995 and November 1998 we performed RLS in 8 patients (2 males, 6 females, age range between 39 and 60, average age 51.3) with chronic venous insufficiency, all ranked as C6 – Hawaii classification. They spent in hospital 12.3 days on average (3 to 30 days). In one female patient RLS was first performed and after 5 days Thiersche's operation followed. There were no complications prior to surgery. On the 3rd day after the operation one female patient was afflicted with biliary colic – we diagnosed cholecystolithiasis. One male patient suffered from hypoaesthesia in lumbar area – neurotopically the finding was negative. The problem subsided spontaneously within two days. The chosen method of treatment proved successful in all patients.

DISCUSSION

The therapy of chronic venous insufficiency is based on precise diagnosis the fundamental element of which is a thorough clinical check up supported with Dopplerometry. Majority of patients (290, i.e. 91%) underwent standard surgery – operation of great and/or small saphenous vein – only in 28 patients (9%) miniinvasive method was used.

Endoscopic subfascial dissection of perforators is indicated only in the cases where skin alterations do not allow for classical surgery. Generally, they are patients with advanced chronic venous insufficiency (ranked between C4 and C6 – Hawaii classification). Due to lipodermatosclerotic alterations it is sometimes impossible to get under the defect in question in subfascial area. The number of patients who had undergone ESDP is rather small as we do not want to use the procedure as

an everyday routine. It is not only recently that we can read studies which do not see perforators as key elements causing chronic venous insufficiency (1, 8), they also discuss the possibility of their competence restoration after standard operations of varicose veins (3).

Lumbar sympathectomy is indicated only rarely – in cases when ulcer cruris cannot be successfully treated in a conservative way, i.e. by compression. After the defect consolidation the surgery of venous system may follow without any risks of infection evolution and prolonged healing. When we opt for lumbar sympathectomy retroperitoneoscopic approach is the most advisable – it is considerate and gives the same results as “open” sympathectomy. Cosmetic results are favourable as well.

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