

Salem Operation

<http://www.salemoperation.com>

Salem Operation Abstract:

A new instrument called a "Salem stripper" and a new operation called "Salem endothelial stripping operation" are described on this site.

The "Salem operation" was invented by "Mohamed El-Sayed Salem MD".

Both are designed for the surgical treatment of primary varicose veins of the lower limbs to avoid many of the complications of the vein-stripping operation.

Salem Operation Introduction

The Salem stripper is a surgical instrument used in performing the "Salem operation" the Salem endothelial stripping operation, for the surgical treatment of primary varicose veins of the lower limbs.

The Salem stripper is made of stainless steel. It consists of a handle, a flexible wire and the head system. All are protected in a stainless steel case. Each of these parts is connected with each other by a screw. The head system consists of a series of five heads that are variable in size. The heads are connected with each other by a small piece of wire or metal bar, which has a screw at both ends.

Each head is a conical cylinder and has a narrow end and a wide base with a central hole in each to fit the screw of the connection at both ends. The surface of the smaller head is smooth, while the surface of the remaining four heads has multiple, irregular sharp spikes. The spikes are raised above the surface of the head by 0.5 mm and are slightly directed toward the narrow end of the head by 15 degrees.

Salem Operation Technique

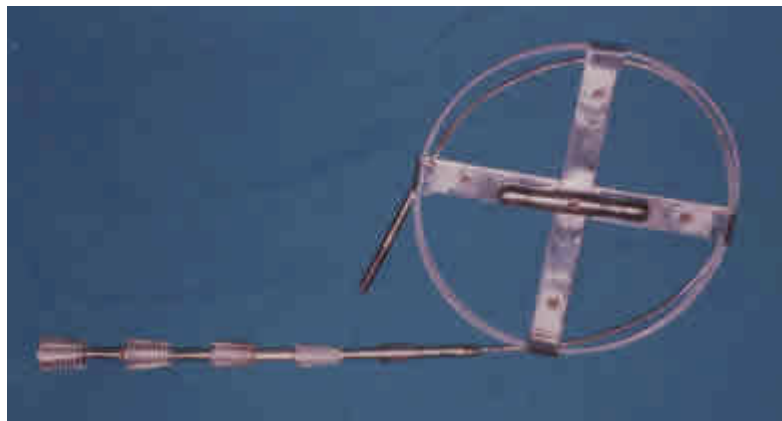
General or Spinal anesthesia is used. The patient is supine. A 5 cm incision is made in the femoral skin crease with its lateral end over the femoral pulse. The saphenofemoral junction is exposed and all of its tributaries are divided and ligated. The proximal part of the saphenous vein is transected between hemostats and the proximal stump is double ligated at the saphenofemoral junction.

A 2 cm transverse or longitudinal incision is made 1-2 cm above and anterior to the medial malleolus. The edges of the transected lower end of the saphenous trunk are grasped between two mosquito hemostats. The probe end of the stripper is advanced proximally through the entire length of the vein. At the femoral incision the cover of the probe is replaced by the head system, and the

narrow ends of the heads are directed toward the wire.

The metal bar connections are used in tubular varices, whereas the wire connections are used in large, tortuous varices, and combinations of both are used according to the case.

The stripper is pulled downward gently inside the vein and any head larger than the vein must be removed. Then the upper end of the vein is ligated with a double ligature and the femoral incision is closed. As the stripper is pulled downward, the spikes of the heads abrade and scrub the intima into small fragments and sweep down the free fragment through the distal wound. The assistant compresses the vein with a rolled towel.



Salem Stripper

For five minutes during closure of the ankle wound. Associated lesser saphenous varices are treated by the same technique in the same session. The limb is snugly wrapped with a layer of cotton gauge and compression elastic bandages from the base of the toes to the groin.

Postoperatively, the limb is elevated 15 degrees and early ambulation is mandatory. The original dressings are removed after forty-eight hours and compression elastic bandages are reapplied until removal of the stitches.

Then the elastic stocking is applied for six weeks. The patient returns to work after three weeks. Residual varices are managed by sclerotherapy, which starts after three weeks in cases with large tributaries and after six weeks in cases with irregular small varices that may disappear spontaneously after proximal control and obliteration of the main saphenous trunk.

Advantages of the Operation are as follows:

The procedure induces thrombosis in the vein

- (1) without hemorrhage
- (2) without surrounding fibrosis
- (3) without injury to the structure surrounding the vein, particularly the saphenous nerve.

Rationale of Salem Operation

The "Salem operation" is safe, simple, and easy. Most of the complications of the vein stripping operation are avoided. It can be performed bilaterally without risk to the patient or exhaustion of the surgical team. Early ambulation, convalescence, and return to work after 2-3 weeks.

Salem Operation Statistics

Brief History

Salem operation was first done in the private clinic of Dr Salem in Alexandria, Egypt. After disclosure of this invention and registration in Washington patent office in April 30 1991 - No. 5,011,489. The operation After that was done in the Alexandria main university hospital and most of the private hospitals in Alexandria, Egypt. Also a trial was done in some centers all over the world.

The first time the Salem stripper was designed and became ready to do the operation in 1986 and 20 cases were done and followed for three years and presented in the international congress of the American College of Angiology which was held in San Francisco, California, USA in October 9 1989 and Dr. Salem Won Award for this Invention in this conference. At that time Dr. Salem was visiting Professor in vascular surgery department, University of South Florida.

After that Dr. Salem returned back Home to Egypt and started his activities to do his operation in many hospitals including the university hospital.

Statistics

Number of cases From 1990 up to 2004 is nearly 1200 cases with no complications except superficial wound infection which represent about 0.5% with no haemorrhage, no hematoma & no saphenous nerve injury. The recurrence rate was matched with the previous operations.

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