ARE THERE STILL ANY INDICATIONS FOR TREATING PATIENTS WITH TRADITIONAL VENOUS SURGERY?

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CONTROVERSIES & UPDATES IN VASCULAR SURGERY
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Disclosure

Speaker name:

➤ Inga Vanhandenhove

- ☐ I have the following potential conflicts of interest to report:
- ☐ Consulting
- ☐ Employment in industry
- ☐ Shareholder in a healthcare company
- ☐ Owner of a healthcare company
- ☐ Other(s)
- X ☐ I do not have any potential conflict of interest

ARE THERE STILL ANY INDICATIONS FOR TREATING PATIENTS WITH TRADITIONAL SURGERY?

➤BELGIUM

?

?

AULUS CORNELIUS CELCUS (25BC – 14 AD)

- “De medicina”
- recommended cleanliness and urged that wounds be washed and treated with substances now considered to be somewhat antiseptic, such as vinegar and thyme oil
- **ligation** surgery, surgical **excision** and their possible **complications**

GALEN OF PERGAMON (129 – 210 AD)

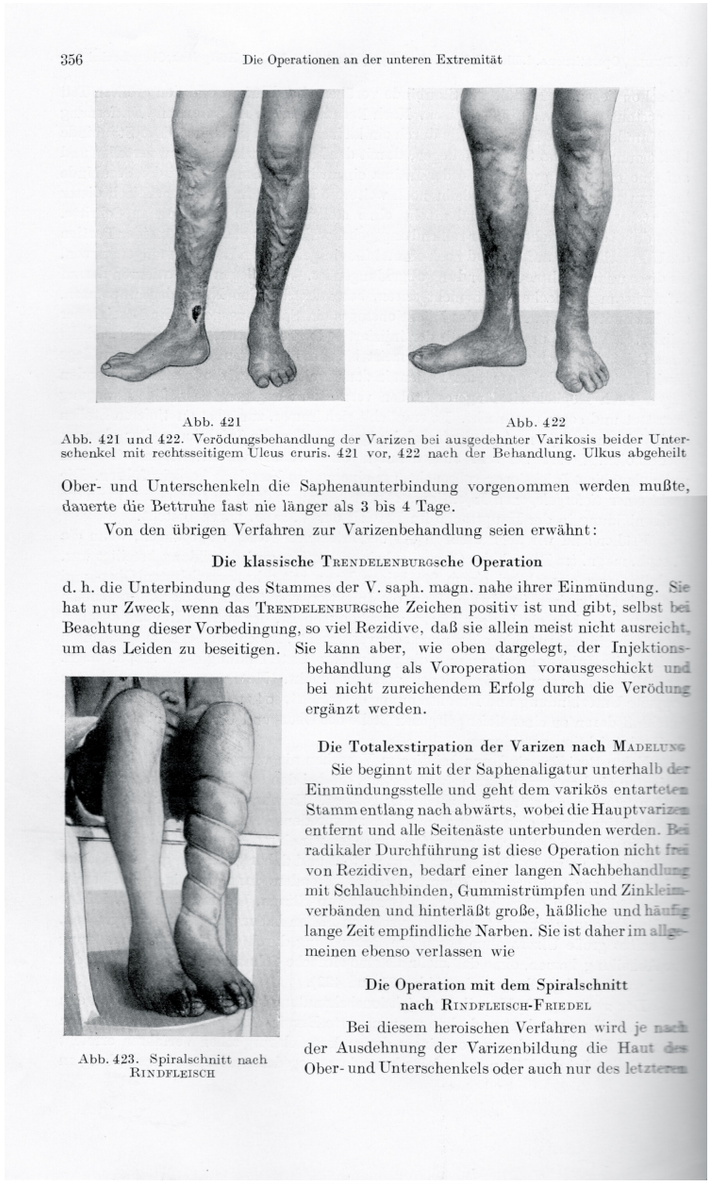
- phlebectomies with a **hooked tool**

CAIUS MARIUS (157 – 87 BC)

- "the "**cure**" wasn't worth the **pain**"

RINDFLEISCH – FRIEDEL

RINDFLEISCH – FRIEDEL



356 Die Operationen an der unteren Extremität

Abb. 421 Abb. 422

Abb. 421 und 422. Verödungsbehandlung der Varizen bei ausgedehnter Varikosis beider Unterschenkel mit rechtsseitigem Ulcus cruris. 421 vor, 422 nach der Behandlung. Ulkus abgeheilt

Ober- und Unterschenkeln die Saphenaunterbindung vorgenommen werden mußte, dauerte die Bettruhe fast nie länger als 3 bis 4 Tage.

Von den übrigen Verfahren zur Varizenbehandlung seien erwähnt:

Die klassische Trendelenburgsche Operation

d. h. die Unterbindung des Stammes der V. saph. magn. nahe ihrer Einmündung. Sie hat nur Zweck, wenn das Trendelenburgsche Zeichen positiv ist und gibt, selbst bei Beachtung dieser Vorbedingung, so viel Rezidive, daß sie allein meist nicht ausreicht, um das Leiden zu beseitigen. Sie kann aber, wie oben dargelegt, der Injektionsbehandlung als Voroperation vorausgeschickt und bei nicht zureichendem Erfolg durch die Verödung ergänzt werden.

Abb. 423. Spiralschnitt nach Rindfleisch

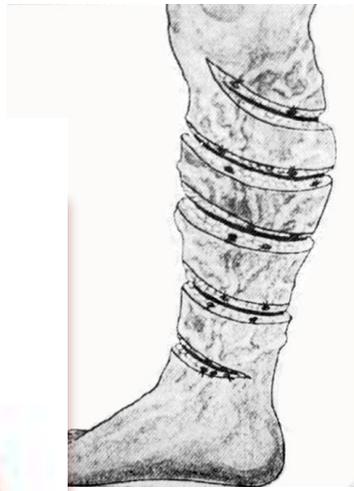
Die Totalexstirpation der Varizen nach Madelung

Sie beginnt mit der Saphenaligatur unterhalb der Einmündungsstelle und geht dem varikös entarteten Stamm entlang nach abwärts, wobei die Hauptvarizen entfernt und alle Seitenäste unterbunden werden. Bei radikaler Durchführung ist diese Operation nicht frei von Rezidiven, bedarf einer langen Nachbehandlung mit Schlauchbinden, Gummistrümpfen und Zinkleimverbänden und hinterläßt große, häßliche und häufig lange Zeit empfindliche Narben. Sie ist daher im allgemeinen ebenso verlassen wie

Die Operation mit dem Spiralschnitt nach Rindfleisch-Friedel

Bei diesem heroischen Verfahren wird je nach der Ausdehnung der Varizenbildung die Haut des Ober- und Unterschenkels oder auch nur des letzteren

RINDFLEISCH – FRIEDEL



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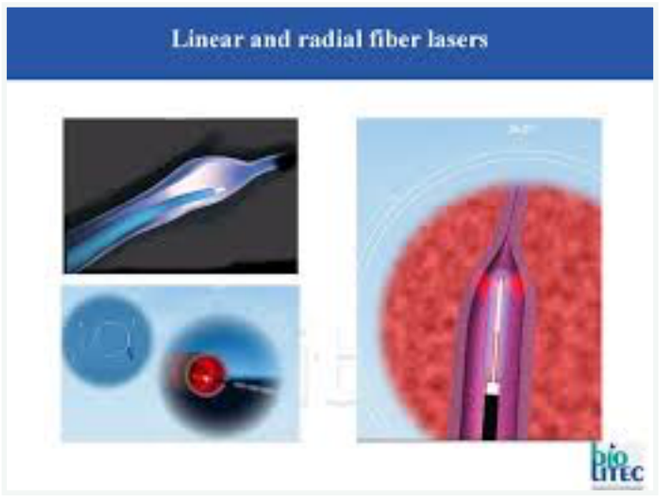
OPEN OR TRADITIONAL SURGERY

- **gold standard surgical procedure** for treating venous incompetence and leg ulcer for many years
- **high ligation and stripping** (HL/S) of the great or small saphenous vein, combined or not with the excision of segments of varicose veins
- **general anaesthesia**
- **hospitalisation**
- surgical **complications**, often caused by the (sometimes long) immobilisation
- good results, but should be: **local anaesthesia, day-care, immediate mobilisation**

ENDOVENOUS TECHNIQUES – THERMAL OR CHEMICAL

- 20 years ago: scientific proof or “gut feeling”?
- result of the advances of endovascular and minimally invasive procedures in arterial surgery
- **reduce the inconveniences and complications** associated with traditional surgical procedures
- better **QOL** right after the intervention



“

word of Middle English origin,
meaning nonsense…

Sir Peter Bell

Bollocks…

Sir Peter Bell

What is the Future of Surgery in the UK? 2003

[Peter Bell Sir]

Peter R F Bell is the Foundation Professor of Surgery at Leicester University, Leicester, UK. He qualified from Sheffield University and trained in surgery in Sheffield, Glasgow, UK, and Denver, USA. His interests are vascular surgery and transplantation.

Abstract

Surgery is an invasive form of treatment and must be a ‘last resort’. Research into conditions that can be treated by surgery aims to make it extinct, by discovering the basis for various disease processes and treating them medically.

TRADITIONAL OR EV

- many RCTs on the **short-term efficacy** of EVLA or RF
- comparison with HLS and ablation
- **significant improvement** in venous clinical severity score in all techniques
- but with less **pain**, less postoperative **haematomas** and **infection**, faster **recovery** and earlier **return to normal activity** with the endovenous techniques in most studies
- EVLA and RF are estimated more **expensive** than open surgery, but that does not take into account the cost of a longer leave of absence after HLS

RCT ON THE LONG-TERM EFFICACY OF EV AND TRADITIONAL SURGERY

Long-term outcomes of endovenous laser ablation and conventional surgery for great saphenous varicose veins: Endovenous laser ablation versus conventional surgery for great saphenous varicose veins

August 2018 · British Journal of Surgery 105(Suppl)
DOI: 10.1002/bjs.10961

Tom Wallace · J. El-Sheikha · Sandip Nandhra · Show all 9 authors · I. Chetter

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Abstract

Background Clinical guidelines recommend endovenous laser ablation (EVLA) over surgery based on short-term evidence, yet there are few studies reporting mid- to long-term outcomes. The aim of this study was to report the 5-year outcomes from an RCT of surgery versus EVLA for treatment of symptomatic great saphenous varicose veins. Methods Patients with symptomatic varicose veins due to great saphenous vein (GSV) incompetence were followed up 5 years after enrolment in a randomized trial of either surgery (saphenofemoral junction ligation, GSV strip to the knee and multiple avulsions of varicosities) or EVLA plus multiple avulsions. Outcomes included: clinical recurrence, defined as new varicose veins greater than 3 mm in diameter; Venous Clinical Severity Score (VCSS); quality of life measured by means of Short Form 36, EuroQol Five Dimensions (EQ-5D™) and Aberdeen Varicose Vein Questionnaire (AVVQ); patient satisfaction; and duplex ultrasound examination (DUS) findings. Results Some 218 of the 276 patients enrolled in the trial (79·0 per cent) were available for follow-up. Clinical recurrence was more frequent following surgery than EVLA at 5 years (34·3 versus 20·9 per cent; P = 0·010). Both groups demonstrated sustained significant improvements at 5 years over baseline in VCSS (surgery: median (i.q.r.) 1 (0–2) from 4 (3-5), P < 0·001; EVLA: 0 (0–1) from 4 (3-5), P < 0·001), AVVQ (surgery: 4·59 (0·56–9·78) from 13·69 (9·81–18·11), P < 0·001; EVLA: 3·35 (0·17 to 6·55) from 12·73 (9·41–17·32), P < 0·001) and EQ-5D™ (surgery: 1·000 (0·796–1·000) from 0·859 (0·796–1·000), P = 0·002; EVLA: 1·000 (0·796–1·000) from 0·808 (0·796–1·000), P = 0·002). VCSS was better for EVLA than surgery at 5 years (P = 0·031). Technical success assessed by DUS remained high at 5 years (85·4 per cent for surgery and 93·2 per cent for EVLA; P = 0·074). DUS-detected anatomical patterns of recurrence differed between the groups. Conclusion EVLA was more effective than surgery in preventing clinical recurrence 5 years after treatment of great saphenous varicose veins. Patient-reported outcome measures were similar. Registration number: NCT00759434 (http://www.clinicaltrials.gov).

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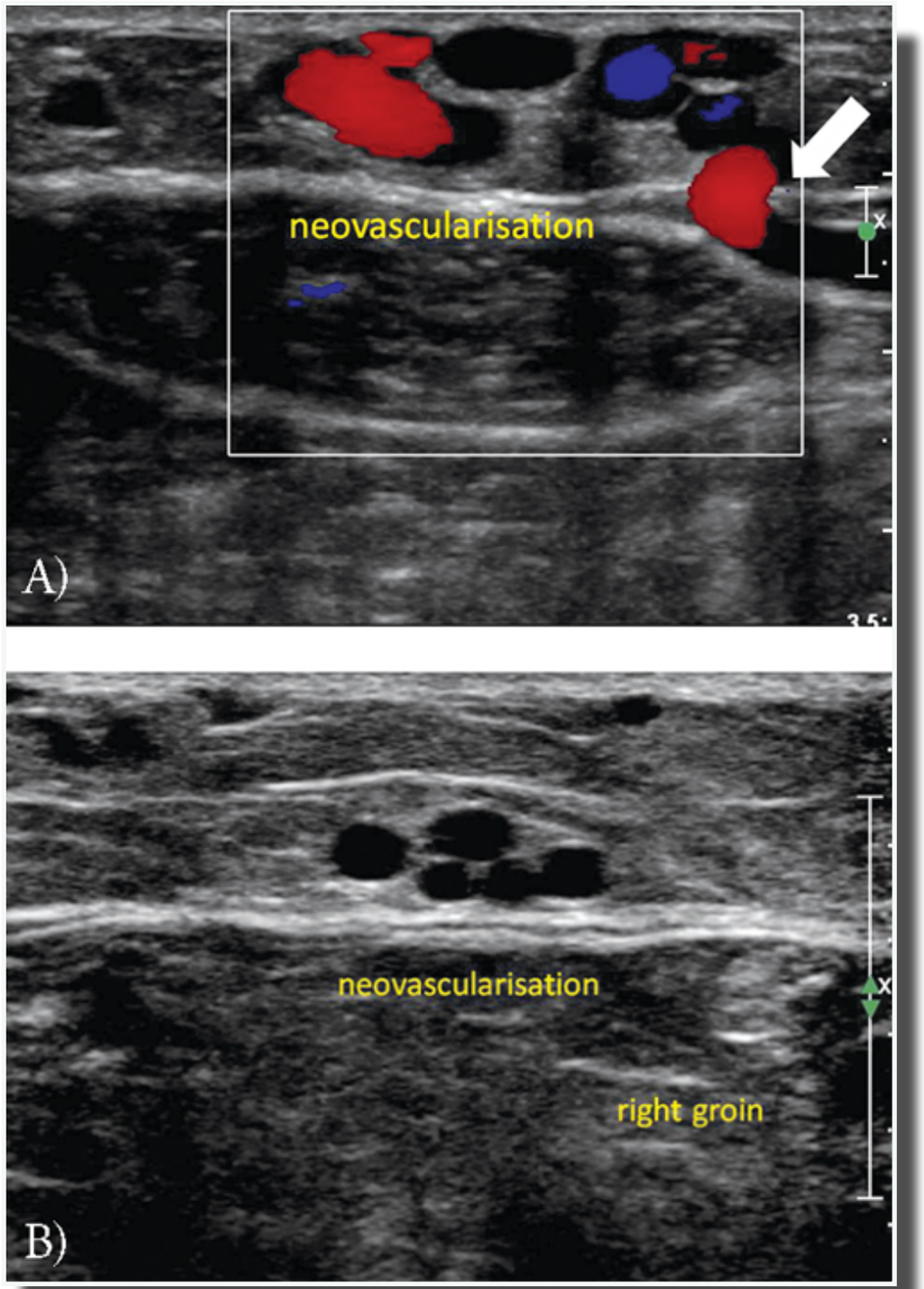
RECURRENCE OR PROGRESSION OF THE DISEASE?

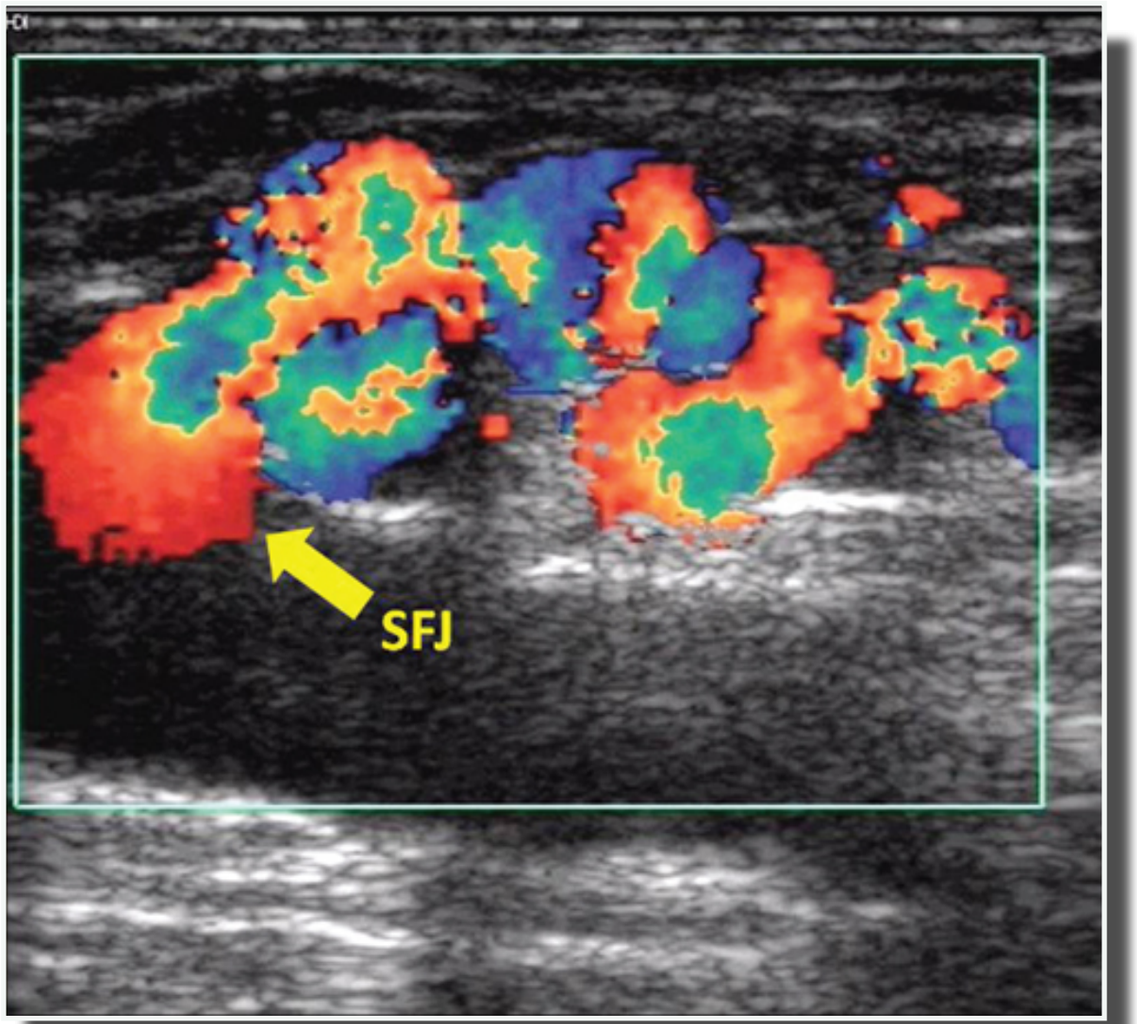
- technique?
- chronic disease!
- neovascularization
- progression of disease
- perforating veins
- recanalized GSV
- AAGSV reflux



RECURRENCE OR PROGRESSION OF THE DISEASE?

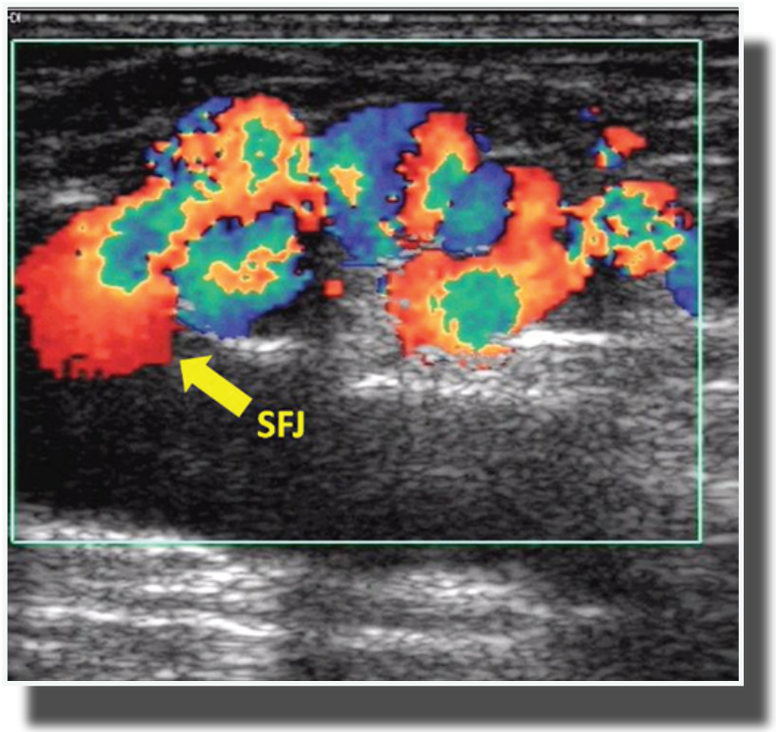
➤ Etiology and Pathophysiology of Varicose Vein Recurrence at the Saphenofemoral or Saphenopopliteal Junction: an Update

Marianne De Maeseneer



NEOVASCULARIZATION – RECANALIZATION

- **neovascularization**: presence of multiple small tortuous veins in anatomic proximity to a previous intervention
- more frequent after HLS, even with correct flush SFJ ligation
- EVTA: neovascularization at the SFJ or SPJ is very exceptional
- recurrence due to **recanalization** of a previously obliterated trunk more frequent after chemical ablation with sclerosant foam than after thermal ablation



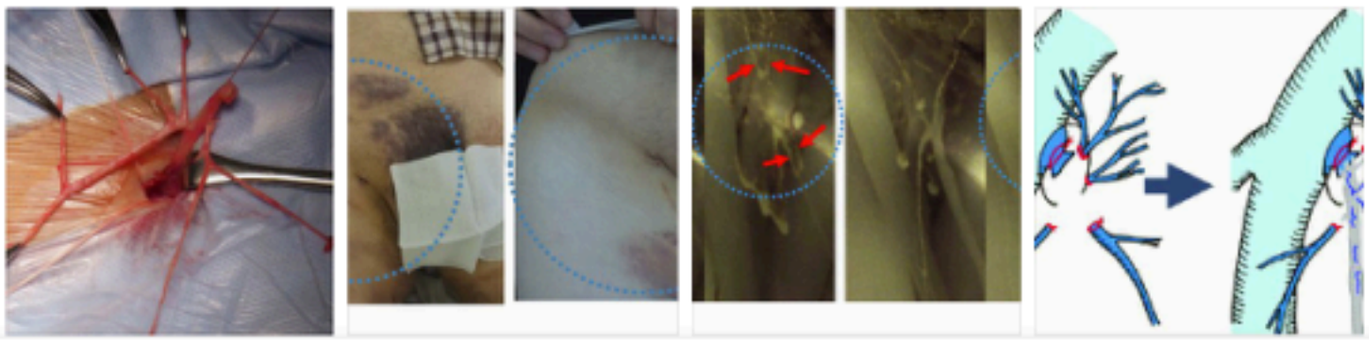
New Method of Flush Saphenofemoral Ligation that is Expected to Inhibit Varicose Vein Recurrence in the Groin: Flush Ligation Using the Avulsion Technique Method

Article | Full-text available | Sep 2018 · Annals of Vascular Diseases

Masaki Kokubo · Tetsuya Nozaka · Yoshifumi Takahashi

Abstract and figures

Recently, with the spread of laser ablation therapy, it has been called into question whether flush ligation of the great saphenous vein (GSV) reduces varicose vein recurrence after surgery. Because we thought such recurrence was caused by a narrow branch resection area, we developed a new method of flush ligation (the avulsion technique method). Materials and methods: A total of 214 limbs in 180 patients whose GSV had become varicose were studied. In our procedure, we dissect the GSV, lift its proximal stump, and expose the tributaries. We pull out the distal side of the tributaries without ligature as far as possible. We evaluate the area of subcutaneous ecchymosis within a 15-cm radius of the inguinal incision visually on the third post-operative day. Results: We were able to pull out over 10 cm per branch by this method. The area of subcutaneous ecchymosis was mostly less than 10%. No hematoma or pain was observed after the operation. Conclusion: This method was safe, with subcutaneous ecchymosis occurring only rarely. We expect this method to reduce saphenofemoral junction recurrence after the operation. (This is a translation of Jpn J Phlebol 2017; 28: 11-16.).



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Flush Ligation Using the Avulsion Technique Method

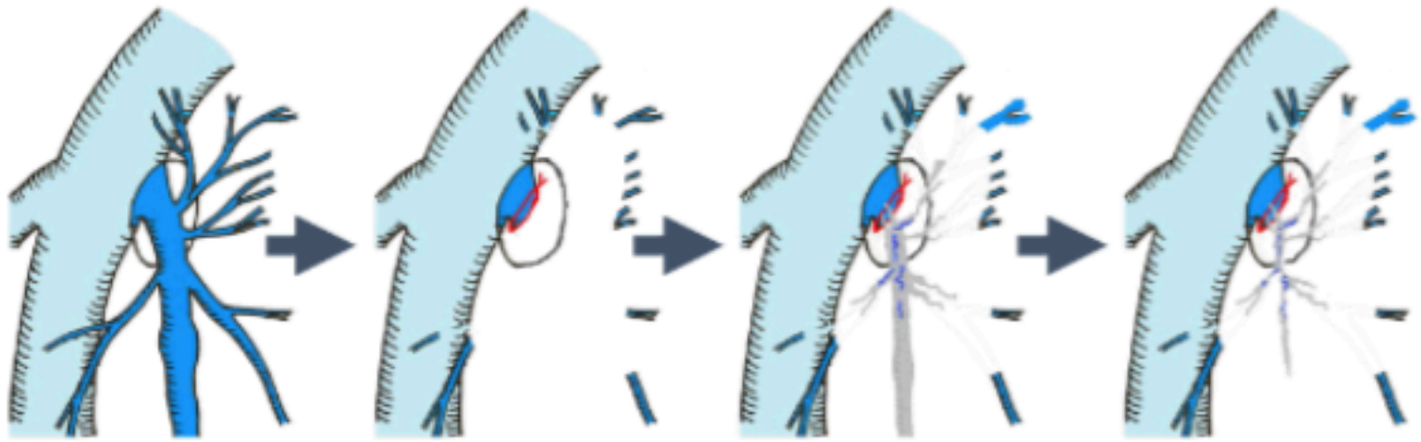

Fig. 5 In the case of the avulsion technique method, granulation is also formed. Microvessels in the granulation and remnant tributaries begin to extend, but they do not connect because they are too far from each other. Therefore, we believe that neovascularization does not occur.

OPEN SURGERY?

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COMPLICATIONS FOLLOWING RE-EXPLORATION OF THE GROIN

- **technically difficult** due to previous surgery
- **time-consuming**
- **local anaesthesia?**

- **outcome is worse than after primary surgery**
- access to the SFJ facilitated by approaching the veins indirectly (subfascially) by first exposing the common femoral artery
- **complications** occur in 40% of all procedures (significantly more common following indirect surgery)
  - **lymphatic** damage
  - wound **infection**

AVOIDING RE-EXPLORATION OF THE GROIN / POPLITEAL FOSSA

- depending on the **cause** of recurrence (Duplex scan!)
  - **phlebectomies** without reopening the groin combined with **foam sclerotherapy**
  - **EVLA/RF** of residual refluxing saphenous trunk/AASV
  - isolated **foam sclerotherapy**
  - **embolization** treatment of pelvic vein incompetence
  - investigate and treat underlying **deep-venous problems**

AVOIDING RE-EXPLORATION OF THE GROIN / POPLITEAL FOSSA

- **phlebectomies** without reopening the groin
  - **2010** Pittaluga et al compared classic redo surgery, with a minimally invasive procedure under tumescent local anesthesia focusing on the varicose reservoir without reopening the groin (limited to multiple phlebectomies)
  - good midterm results after 3 years, fewer complications, and a much lower cost for this minimally invasive procedure

AVOIDING RE-EXPLORATION OF THE GROIN / POPLITEAL FOSSA

- **phlebectomies** without reopening the groin, combined with **foam sclerotherapy**
  - Creton and Uhl: phlebectomies with or without a limited reintervention in the groin (transection or ligation of the GSV at the SFJ) and additional foam sclerotherapy
  - good short-term outcome (after 40 days) in 100 cases of GSV recurrence and 29 cases of small saphenous vein (SSV)
  - asymptomatic deep-vein thrombosis was observed in 2 cases at duplex scan evaluation 3 days postoperatively

AVOIDING RE-EXPLORATION OF THE GROIN / POPLITEAL FOSSA

- **EVLA/RF** of residual refluxing saphenous trunk/AAGSV
  - rectilinear refluxing segment of GSV, AAGSV, or SSV can be obliterated by EVA with excellent outcome
  - less pain and bruising
  - lower complication rate
  - faster than redo surgery

AVOIDING RE-EXPLORATION OF THE GROIN / POPLITEAL FOSSA

- isolated **foam sclerotherapy**
  - technique most widely used nowadays
  - excellent immediate results
  - more than 1 session

AVOIDING RE-EXPLORATION OF THE GROIN / POPLITEAL FOSSA

- **Pelvic congestion syndrome**
  - **embolization** treatment of **pelvic vein incompetence**
  - often undiagnosed

AVOIDING RE-EXPLORATION OF THE GROIN / POPLITEAL FOSSA

- underlying **deep-venous problems**
  - investigate and treat underlying **deep-venous problems**
  - **May-Thurner syndrome, popliteal vein entrapment**
  - unexplained persisting tendency for recurrence of varicose veins

ADVANTAGES AND DISADVANTAGES OF VARICOSE VEIN STRIPPING

- no advantages at all to vein stripping…
  - more **pain** and **bruising**, hence longer **leave of absence**
  - **general anaesthetic** – higher **cost**
  - deep-vein **thrombosis** due to dehydration and immobilisation
  - **nerve damage**
  - high rate **neovascularization**

OPEN SURGERY INDICATED?

- very **large dilated and tortuous saphenous veins**, located immediately under the skin
- **aneurysmal enlargement** at the saphenofemoral junction
- vein is partially **thrombosed** up to the SFJ, from a past thrombophlebitis or acute and ascending to the junction → **PE**
- **skinny patient,** but give adequate **tumescence** and **EVTA is possible**

? TRADITIONAL SURGERY ?

- more **complications** and lower early **QOL**
- **recurrences** whatever technique used, so choose less invasive
- avoid **re-exploration** of the groin / popliteal fossa
- **combination** technique
- local / tumescent **anaesthesia**
- **day-care**
- **duplex US!**

? TRADITIONAL SURGERY ?