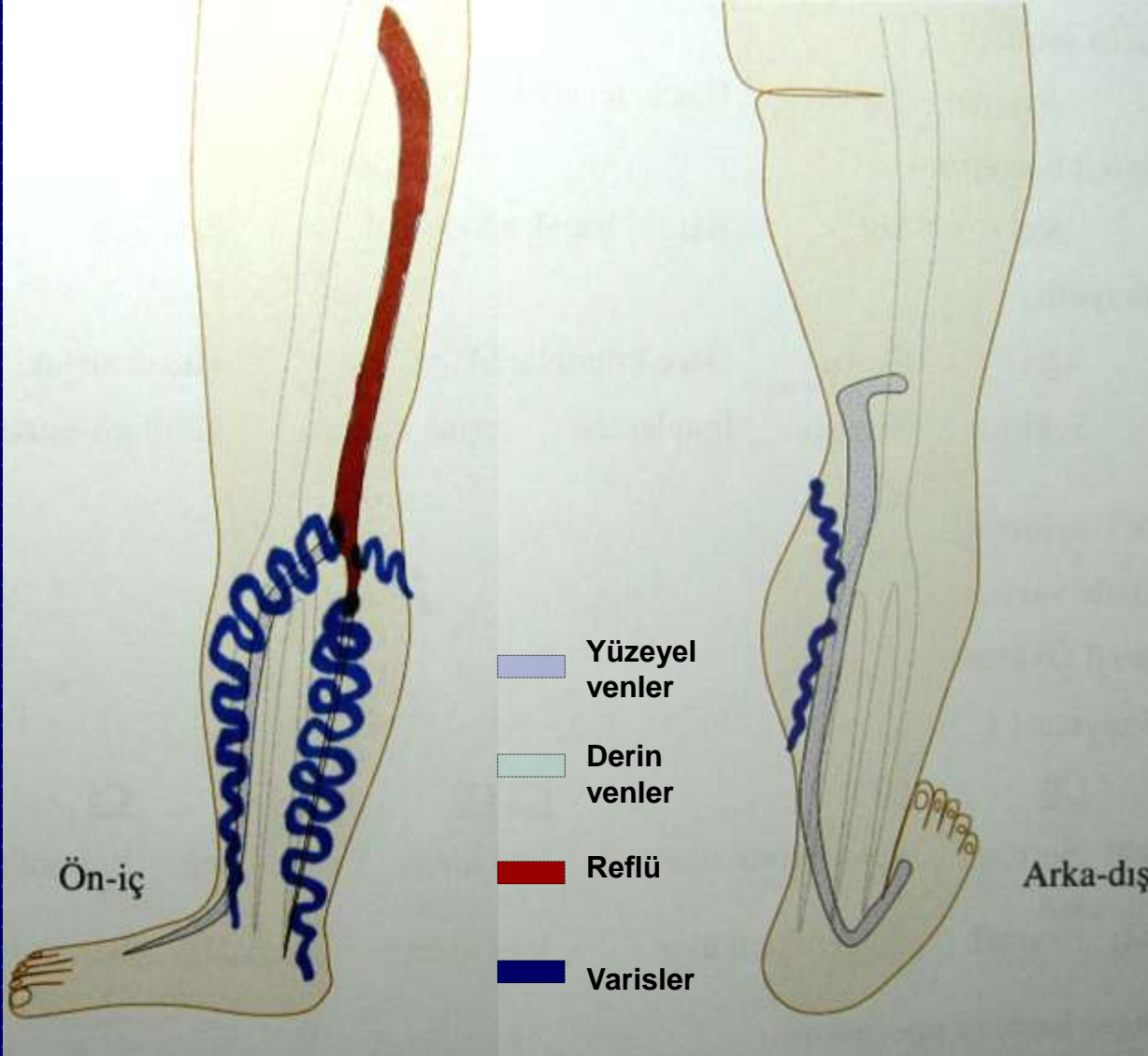


ENDOVENÖZ LAZER YÖNTEMİYLE VARİSLERİNİN TEDAVİSİ

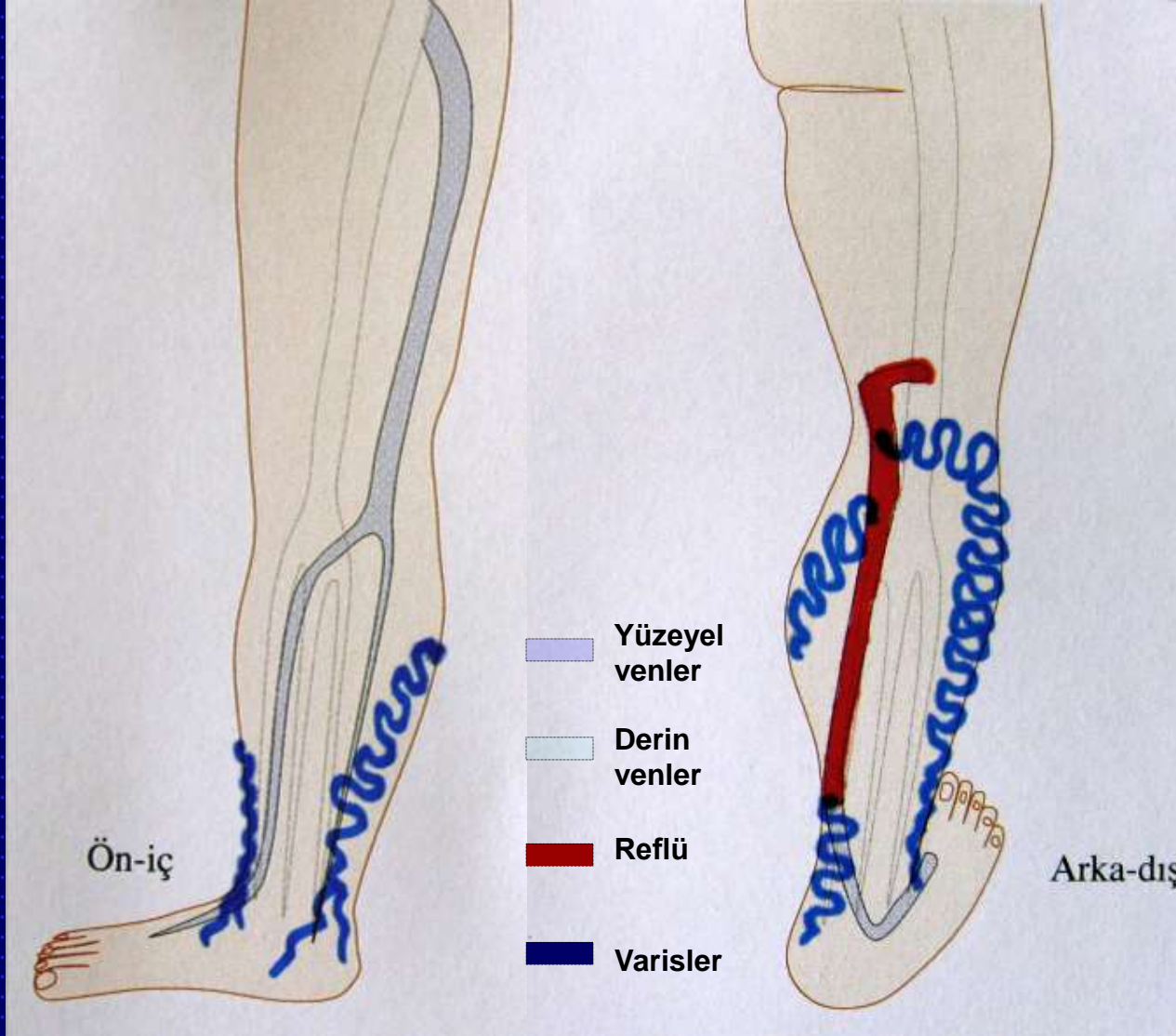
Prof Dr Saim Yılmaz
Akdeniz Üniversitesi Tıp Fakültesi
Radyoloji Anabilim Dalı-Antalya



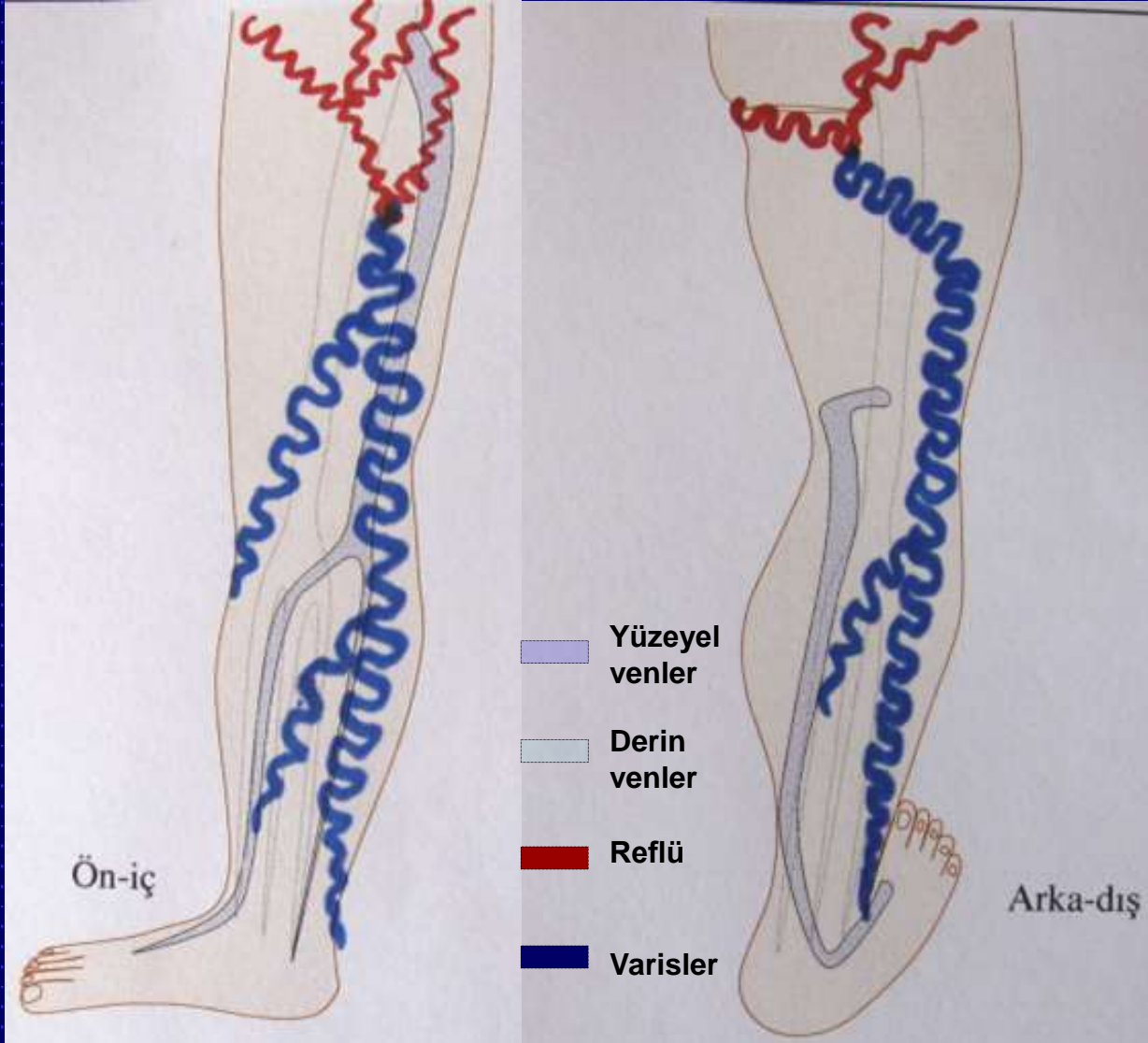
Klasik VSM (SFB) yetmezliđi



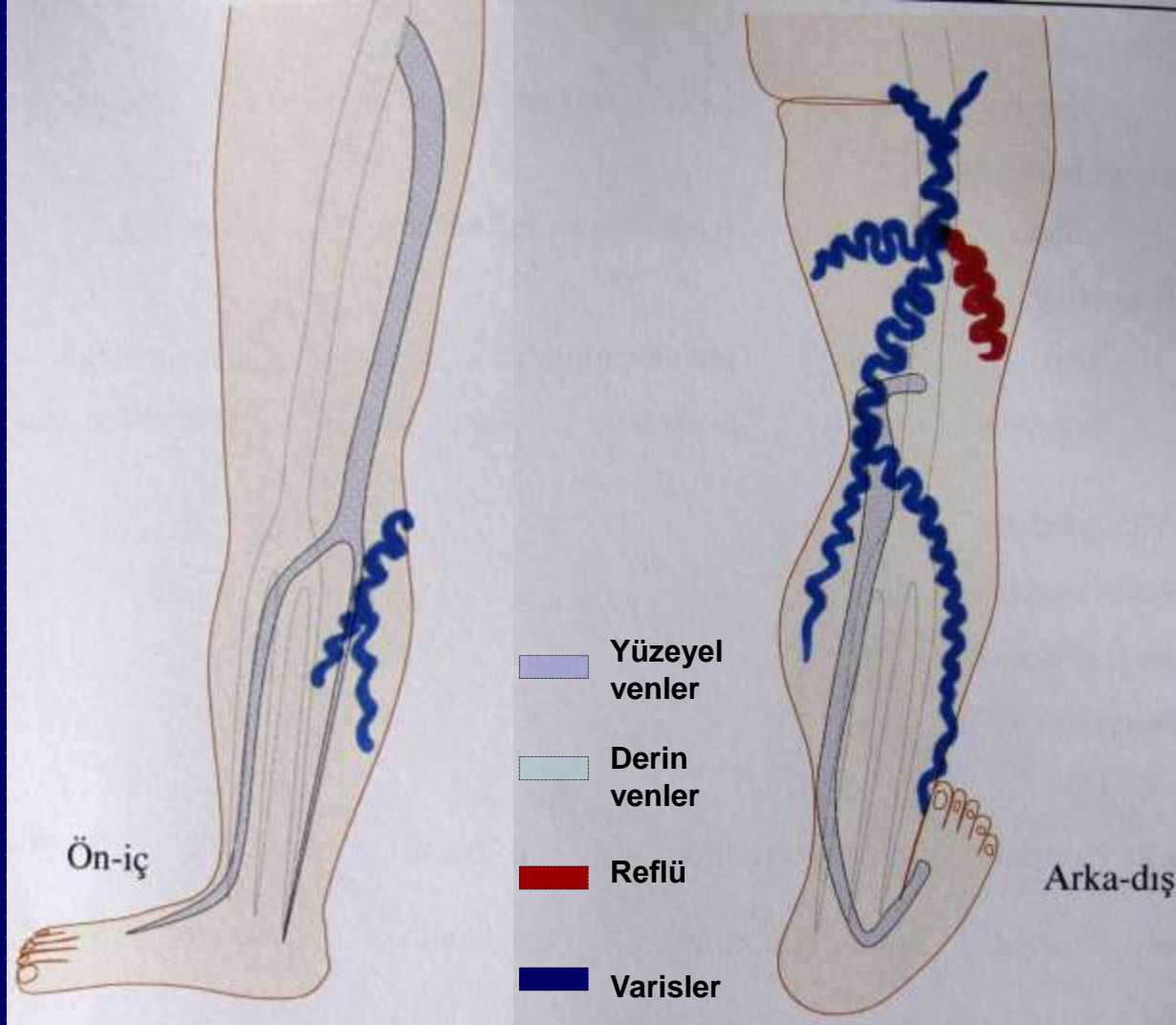
Klasik VSP (SPB) yetmezliđi



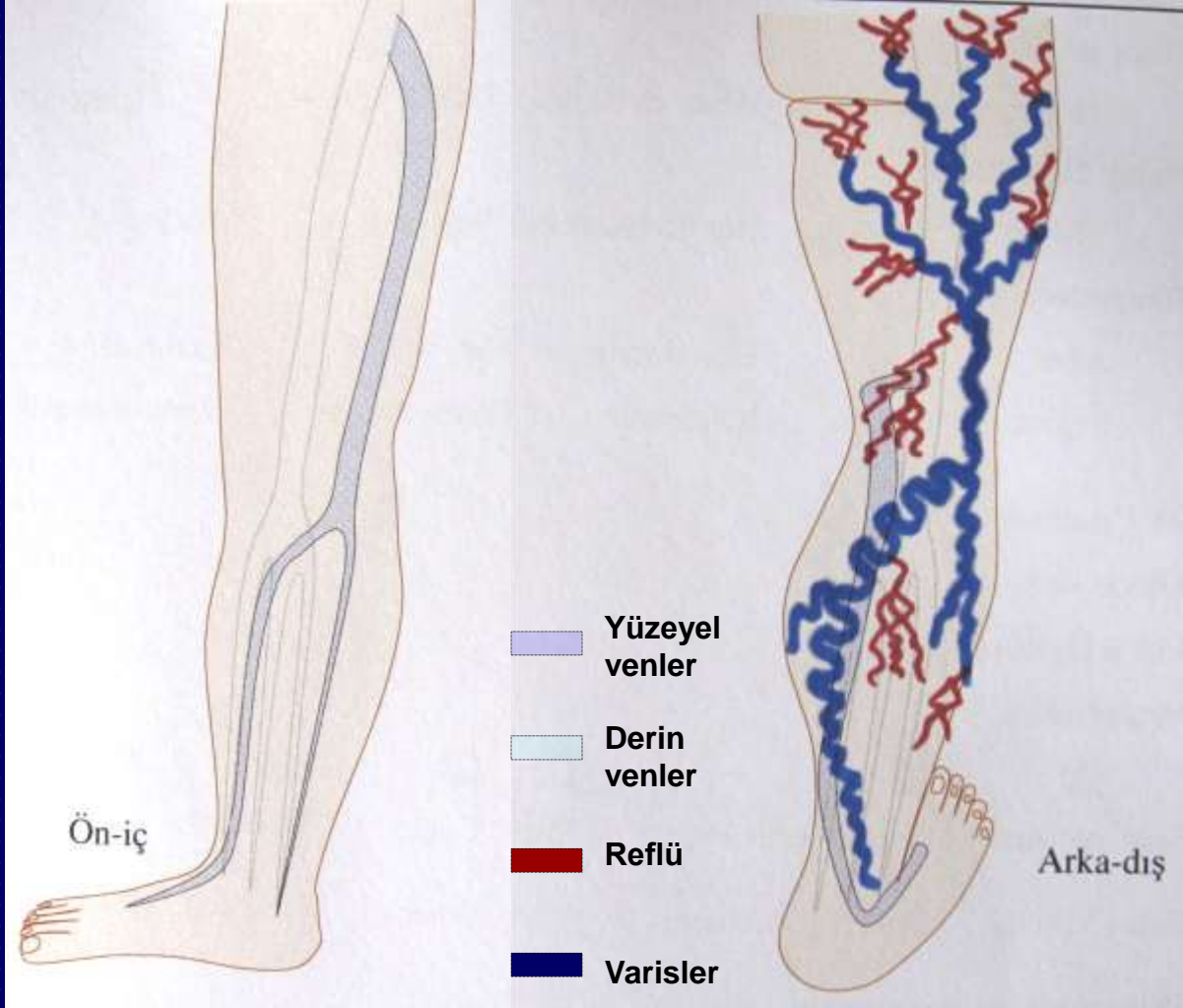
Gonadal-pelvik ven yetmezliđi



Perforan ven yetmezliđi

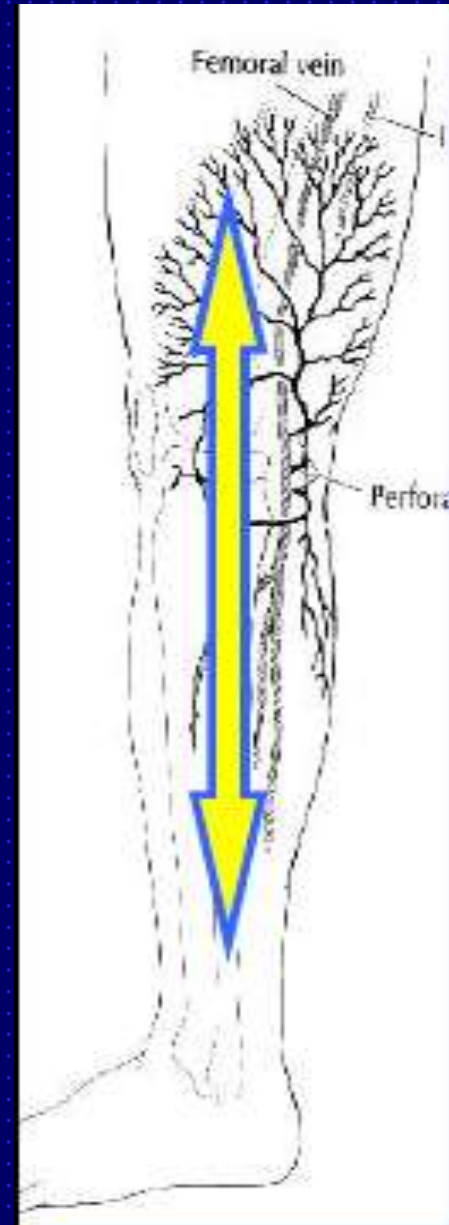


Lateral Subdermal Venöz Plexus (LSVP) yetmezliđi

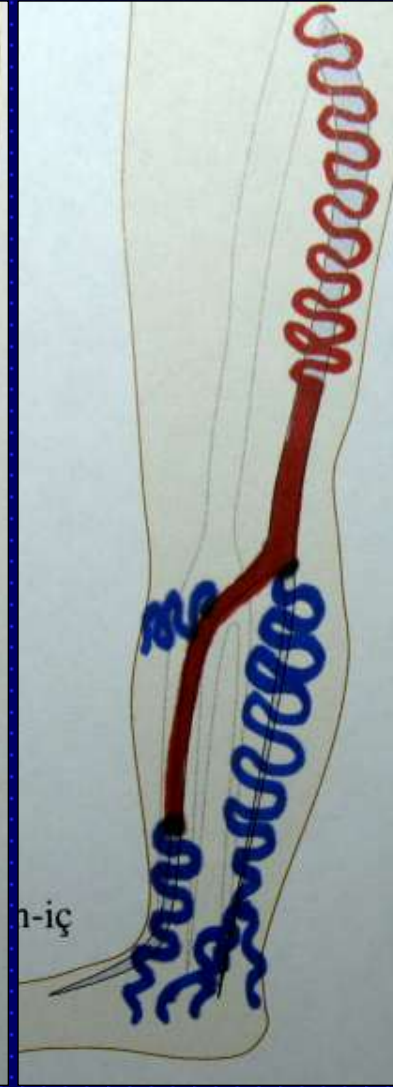
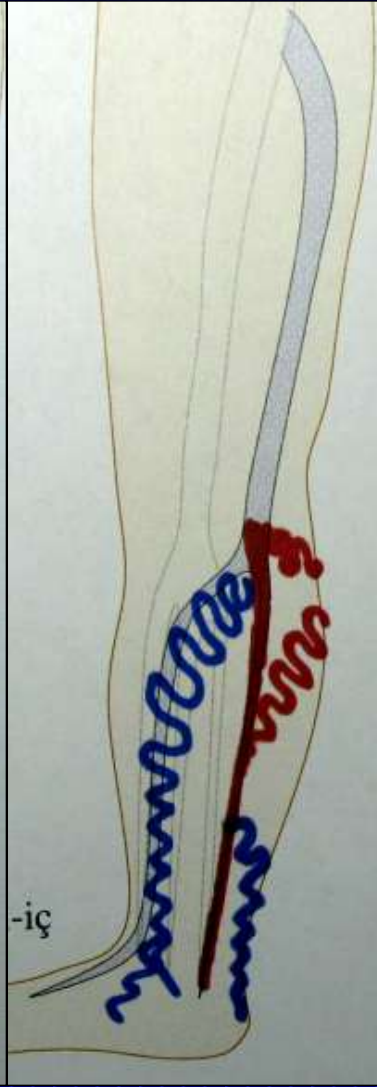
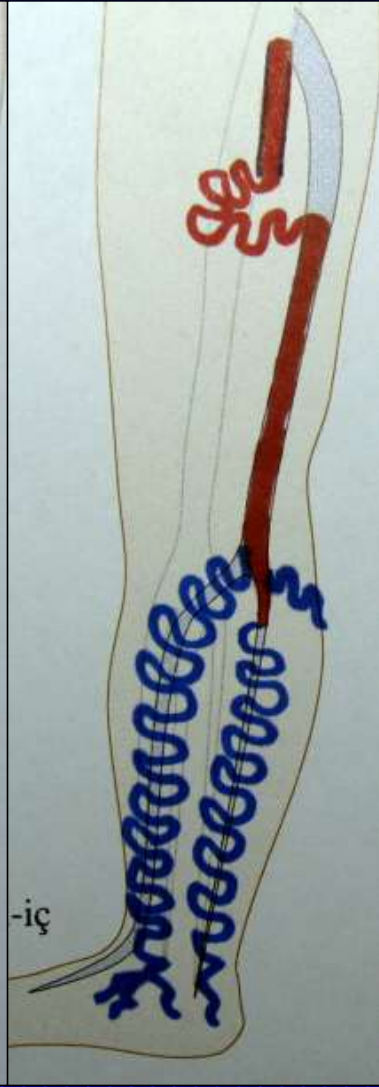
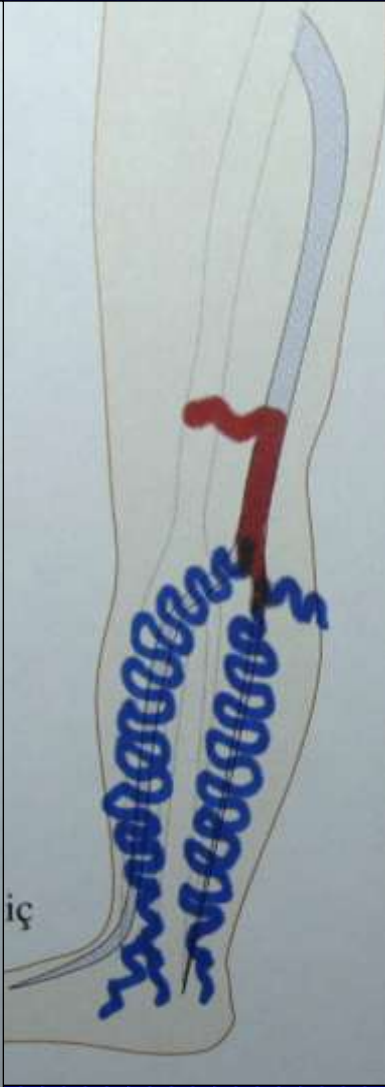
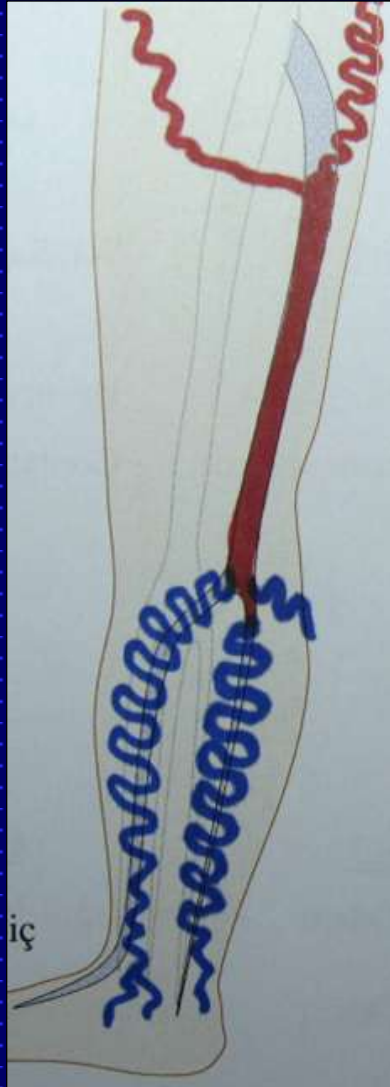


Lateral subdermal venöz plexus

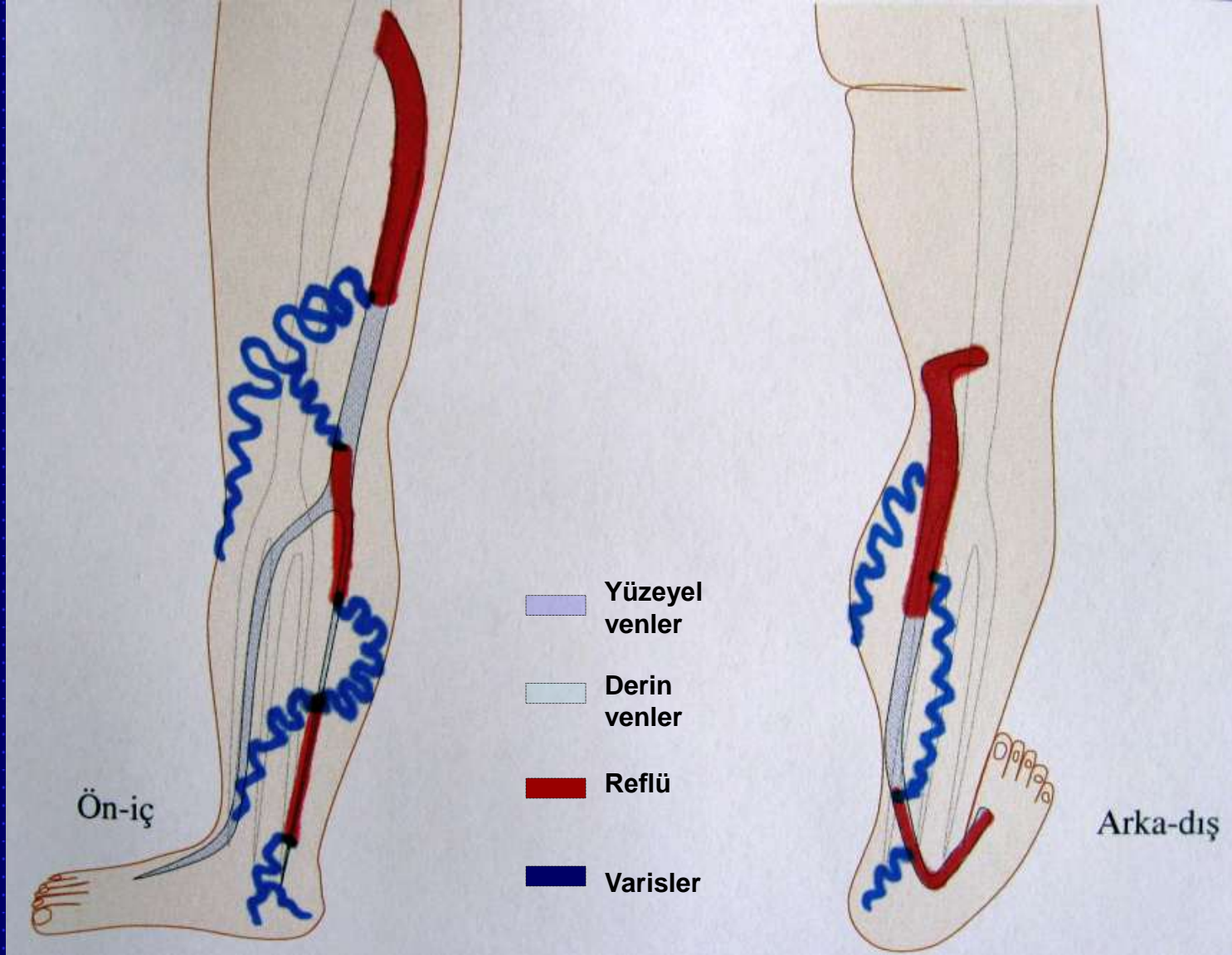
- Derin venöz sistemin embriyolojik remnantı
- DVS ile multipl küçük perforanlar
- Retiküler + spider network
- Diz posterolaterali, prox + distal
- Sağlık<<Görüntü problemi



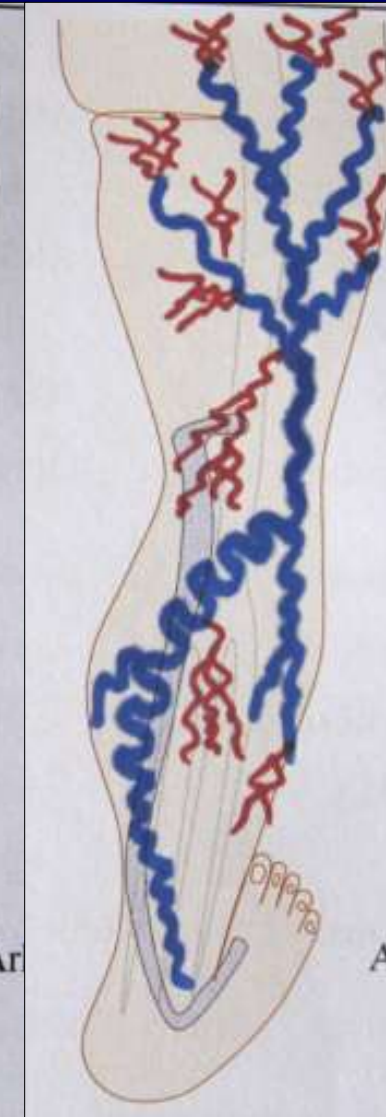
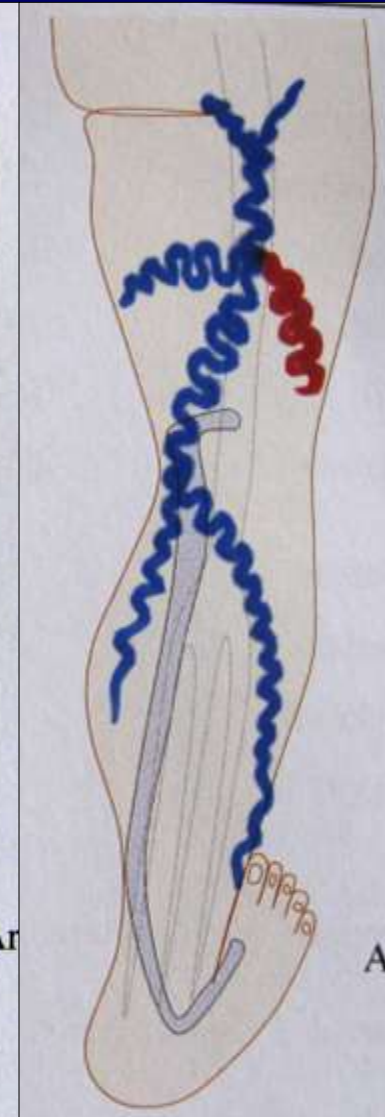
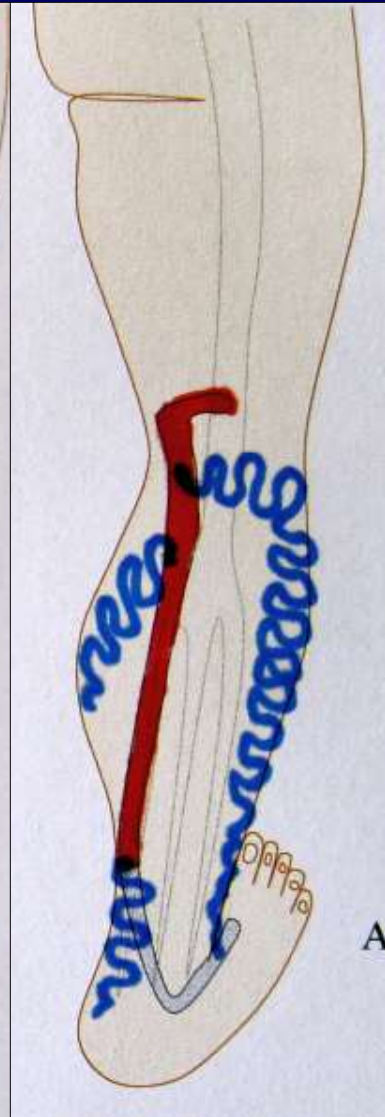
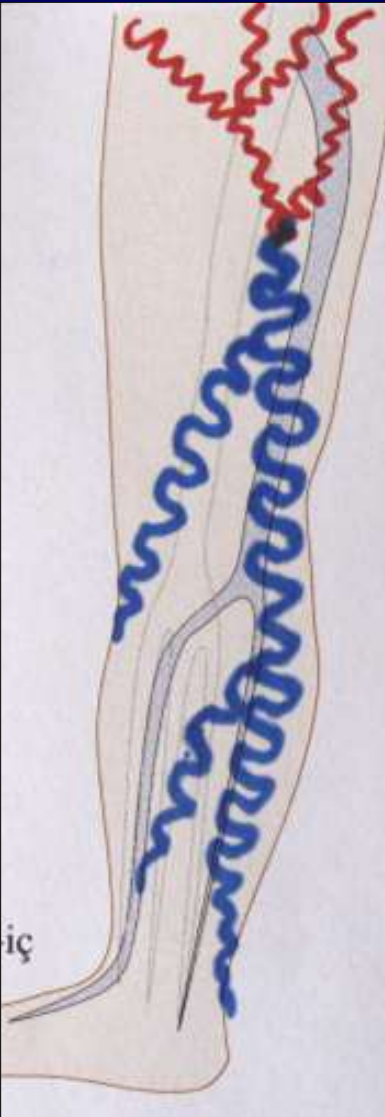
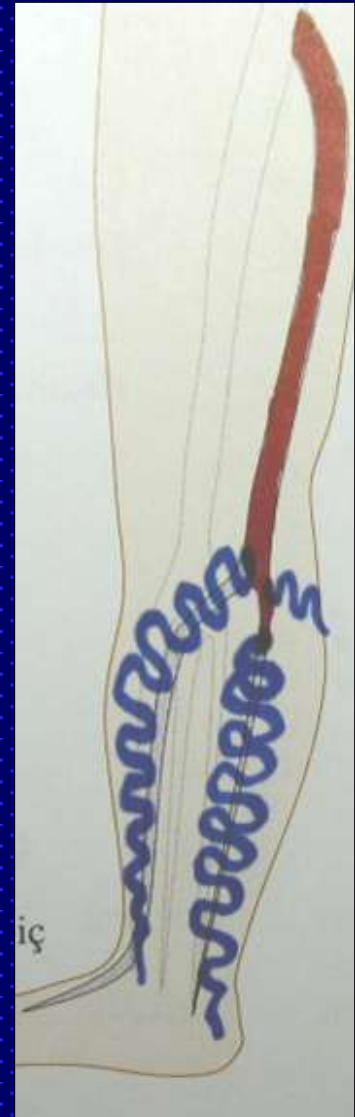
VSM yetmezliđi varyasyonları



Multiple yetmezlik



Amaç: Reflü kaynakları ve varisleri yok etmek



NASIL?

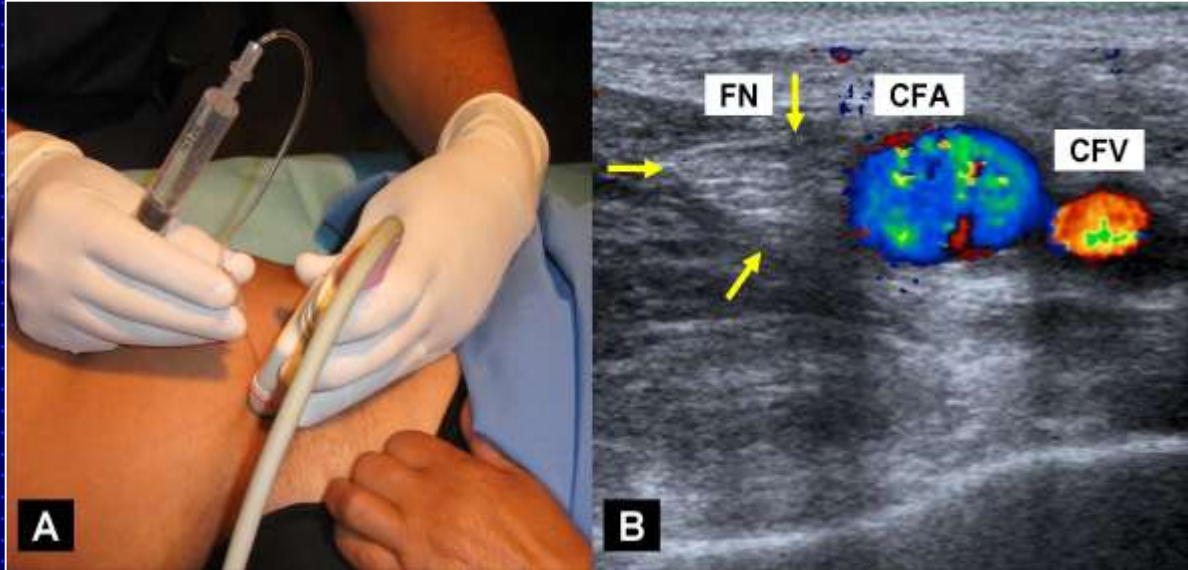
Endovenöz yöntemler:

- Endovenöz lazer
 - Radyofrekans
- } Termoablasyon
- Düz damarlar (rijid), reflü kaynakları (VSM, VSP, perforan)
 - Skleroterapi (köpük)
 - Kıvrıntılı damarlar, varisler

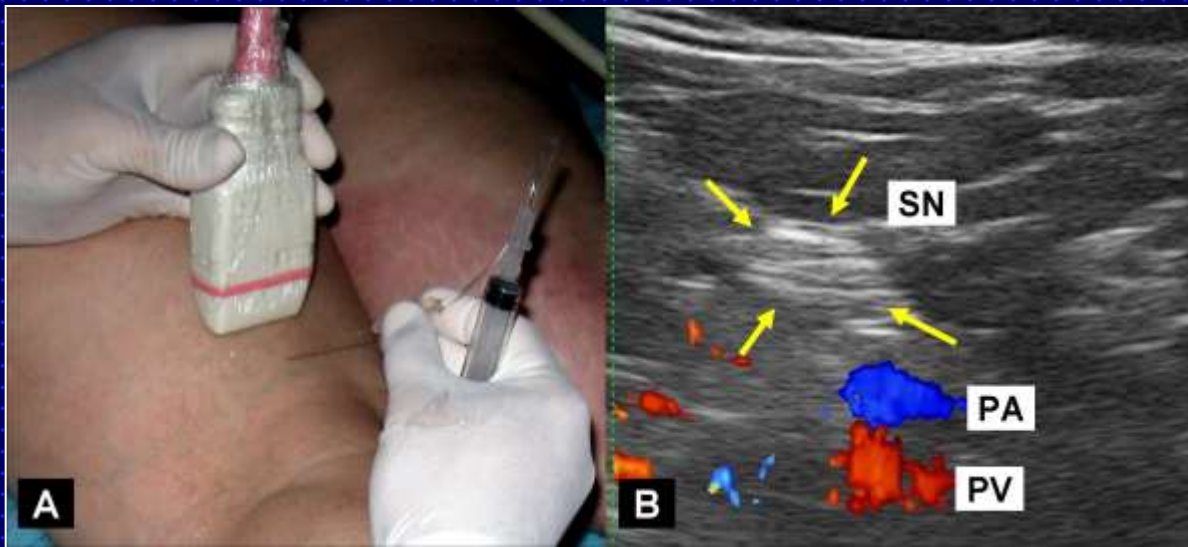


Teknik: Preop analjezi?

US kılavuzluğunda femoral/siyatik blok



Femoral
sinir blokajı
VSM



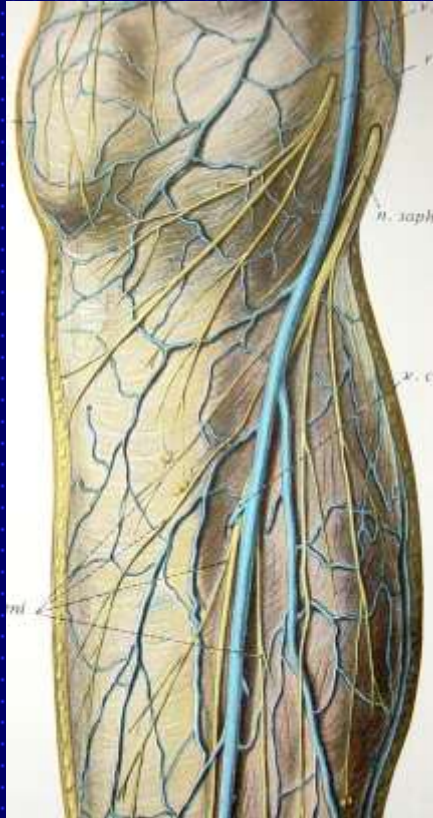
Siyatik
sinir blokajı
VSP

Teknik: Diz üstü-diz altı lazer ablasyon?

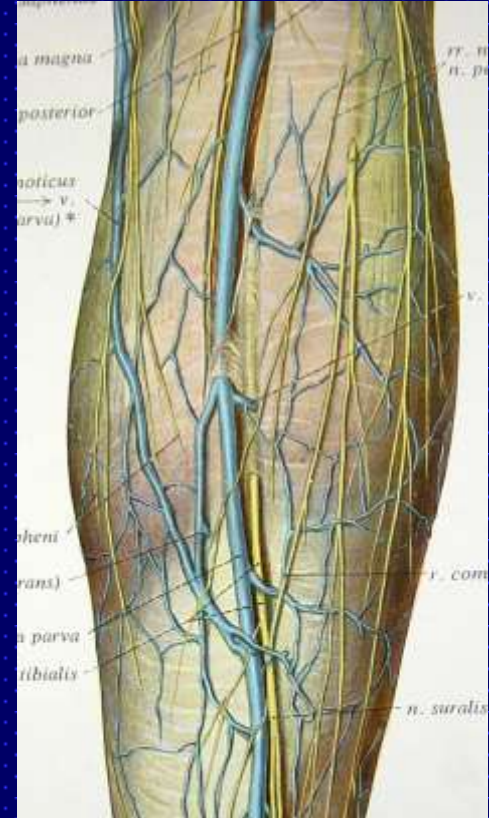
Diz altı VSM ve VSP lazerde “parestezi” riski?



VSM diz üstü



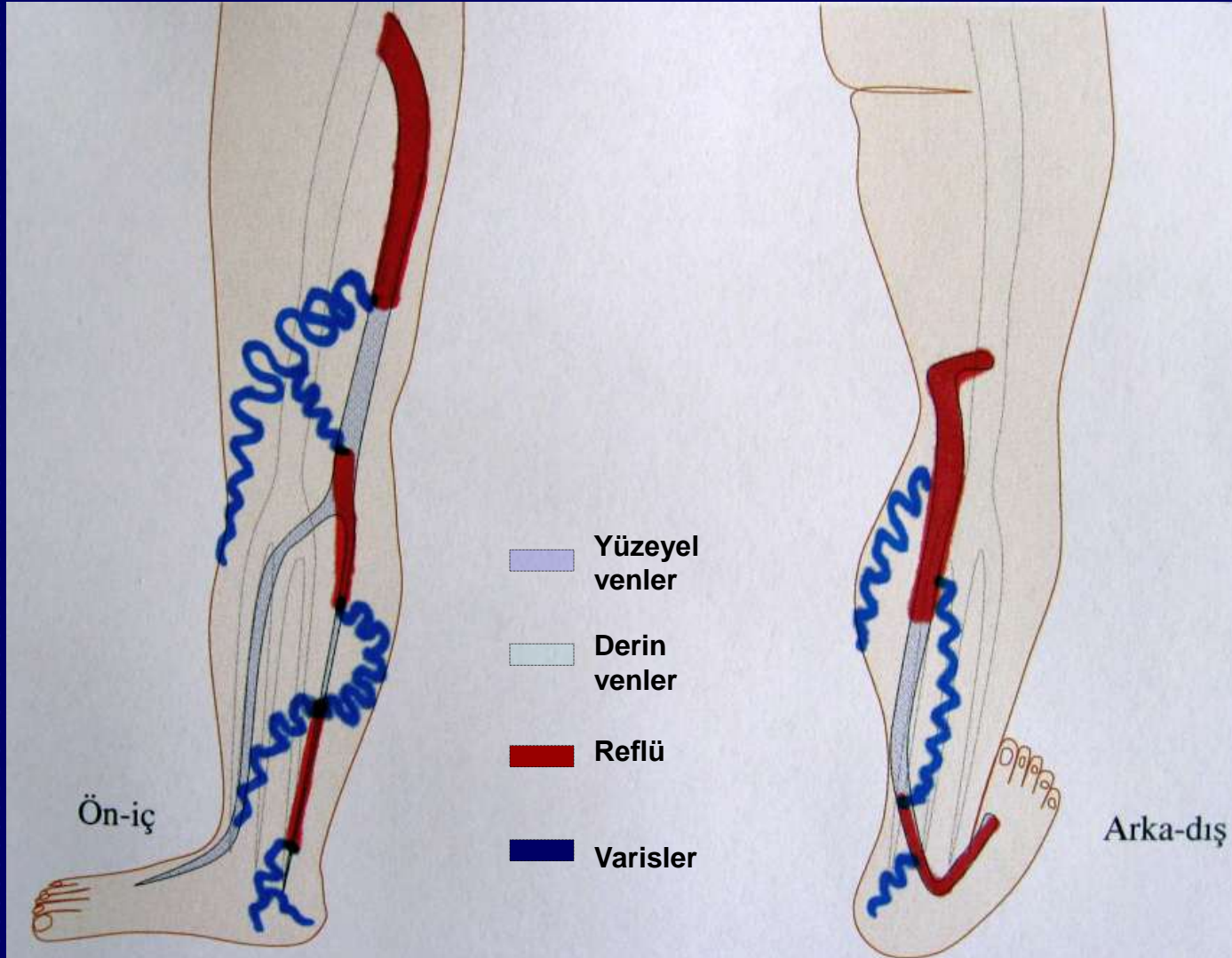
VSM diz altı, Safen sinir



VSP, sural sinir

Teknik: Lazer ablasyon uzunluđu

Mümkün olduđu kadar uzun segment, 2. girişim !



Endovenous laser ablation: does standard above-knee great saphenous vein ablation provide optimum results in patients with both above- and below-knee reflux? A randomized controlled trial.

Theivacumar NS, Dellagrammaticas D, Mavor AI, Gough MJ.

Leeds Vascular Institute, The General Infirmary at Leeds, Leeds, United Kingdom.

Abstract

BACKGROUND: Following above-knee (AK) great saphenous vein (GSV) endovenous laser ablation (EVLA) 40% to 50% patients have residual varicosities. This randomized controlled trial (RCT) assesses whether more extensive GSV ablation enhances their resolution and influences symptom improvement. **METHOD:** Sixty-eight limbs (65 patients) with varicosities and above and below-knee GSV reflux were randomized to Group A: AK-EVLA (n = 23); Group B: EVLA mid-calf to groin (n = 23); and Group C: AK-EVLA, concomitant below-knee GSV foam sclerotherapy (n = 22). Primary outcomes were residual varicosities requiring sclerotherapy (6 weeks), improvement in Aberdeen varicose vein severity scores (AVVSS, 12 weeks), patient satisfaction, and complication rates. **RESULTS:** EVLA ablated the treated GSV in all limbs. Sclerotherapy requirements were Group A: 14/23 (61%); Group B: 4/23 (17%); and Group C: 8/22 (36%); $\chi^2 = 9.3$ (2 df) $P = .01$ with $P(A-B) = 0.006$; $P(B-C) = 0.19$; $P(A-C) = 0.14$. AVVSS scores improved in all groups as follows: A: 14.8 (9.3-22.6) to 6.4 (3.2-9.1), ($P < .001$); B: 15.8 (10.2-24.5) to 2.5 (1.1-3.7), ($P < .001$); and C: 15.1 (9.0-23.1) to 4.1 (2.3-6.8), ($P < .001$) and $P(A-B) = 0.011$, $P(A-C) = 0.042$. Patient satisfaction was highest in Group B. BK-EVLA was not associated with saphenous nerve injury. **CONCLUSIONS:** Extended EVLA is safe, increases spontaneous resolution of varicosities, and has a greater impact on symptom reduction. Similar benefits occurred after concomitant BK-GSV foam sclerotherapy.

The clinical significance of below-knee great saphenous vein reflux following endovenous laser ablation of above-knee great saphenous vein.

Theivacumar NS, Darwood RJ, Dellagrammaticas D, Mavor AI, Gough MJ.

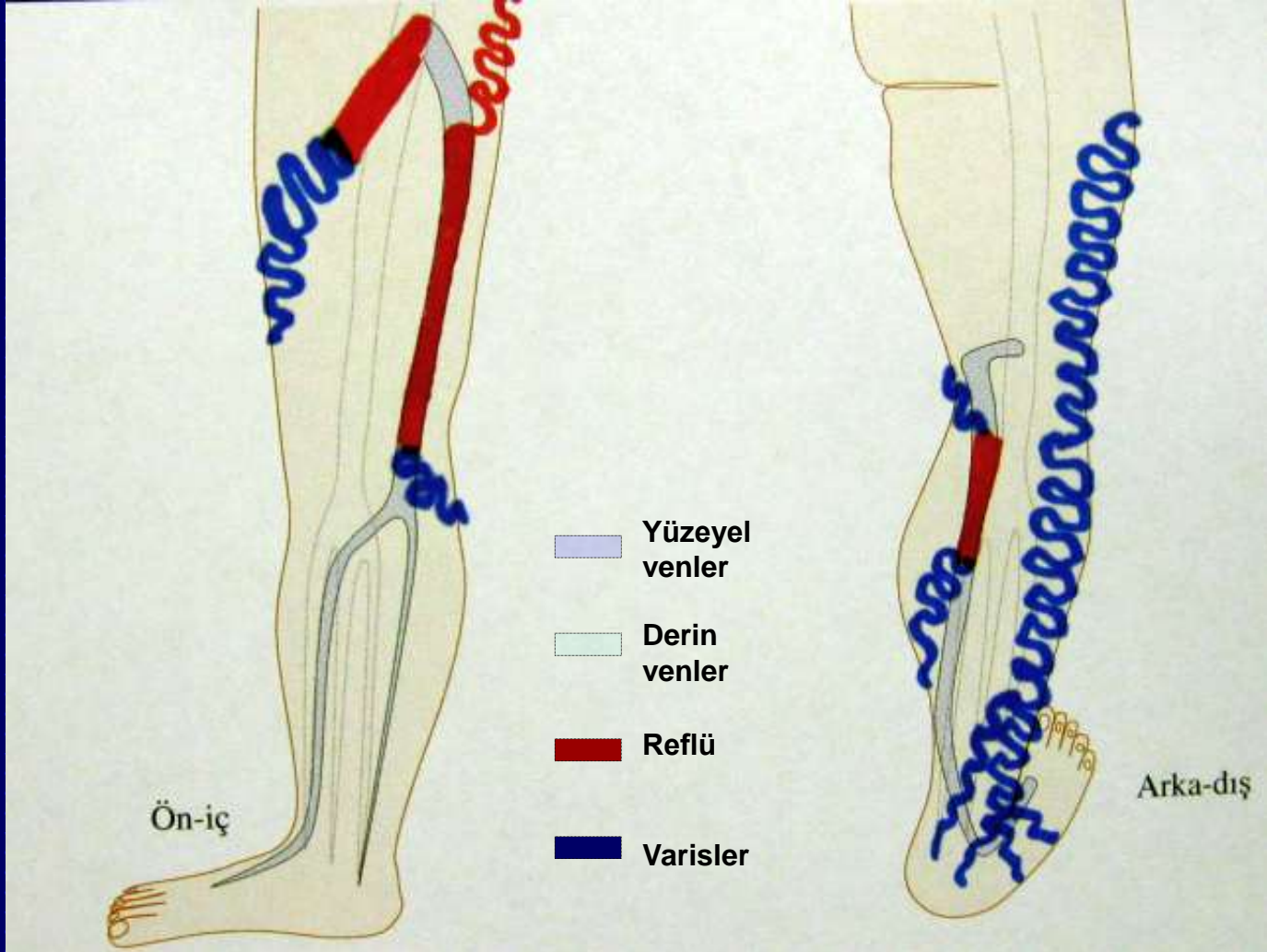
Leeds Vascular Institute, The General Infirmary at Leeds, Great George Street, Leeds LS1 3EX, UK. nadacumar@yahoo.co.uk

Abstract

AIMS: The standard technique for endovenous laser ablation (EVLA) for varicose veins due to great saphenous vein (GSV) reflux involves obliteration of the above-knee (AK) GSV. This study assesses the significance of persistent below-knee (BK) GSV reflux following such therapy. **METHODS:** Sixty-nine limbs (64 patients) with varicosities and GSV reflux underwent AK-EVLA. Post treatment, GSV reflux (ultrasound: six, 12 weeks) and Aberdeen varicose vein severity scores (AVVSS, 12 weeks) were assessed, and residual varicosities treated with foam sclerotherapy (six weeks). **RESULTS:** The untreated BK-GSV remained patent in all limbs. Ultrasound showed normal antegrade flow in 34/69 (49%, Group A), flash reflux < 1 s in 7/69 (10%, Group B) and > 1 s reflux in 28/69 (41%, Group C). Although AVVSS improved in all groups ($P < 0.001$): A: 14.6 (8.4-19.3) versus 2.8 (0.5-4.4), B: 13.9 (7.5-20.1) versus 3.7 (2.1-6.8), C: 15.1 (8.9-22.5) versus 8.1 (5.3-12.6) the improvement was less in Group C ($P < 0.001$ versus A and B) and was associated with a greater requirement (A: 4/34 [12%]; B: 1/7 [14%]; C: 25/28 [89%]) for sclerotherapy (persisting varicosities) ($P < 0.001$). **CONCLUSION:** Although AK-GSV EVLA improves symptoms regardless of persisting BK reflux, the latter appears responsible for residual symptoms and a greater need for sclerotherapy for residual varicosities.

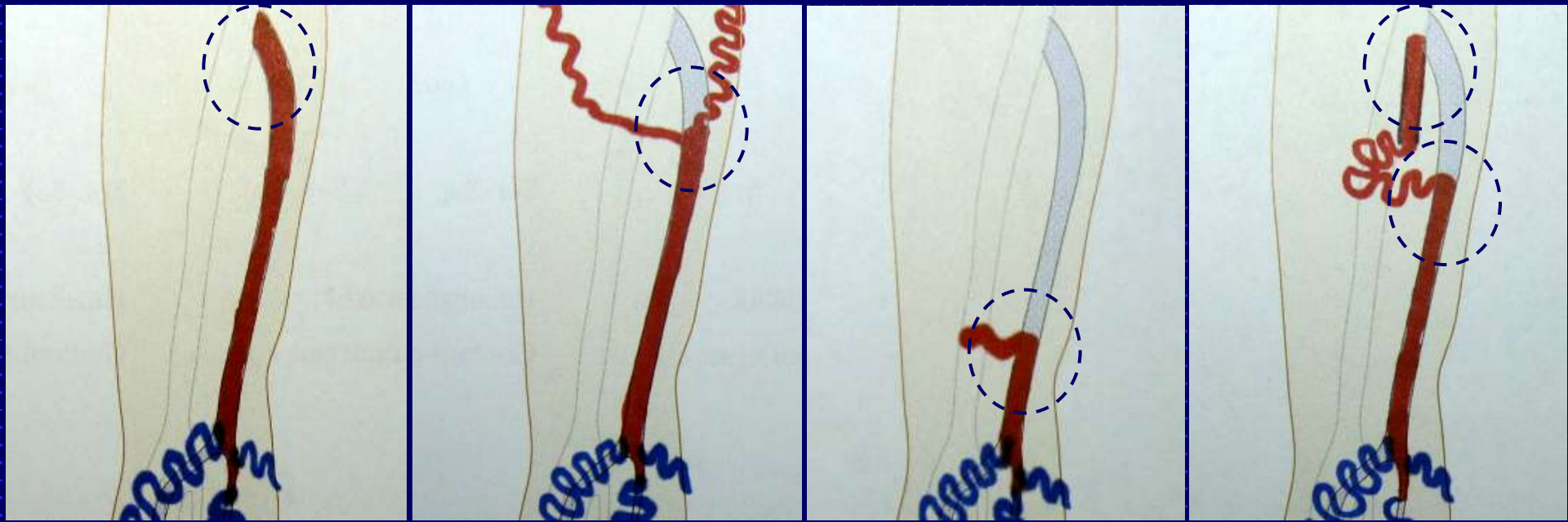
Teknik: Birden fazla yetmezlik

Multipl lazer ablasyonu; Anterolateral, Posteromedial, Giacomini venleri, Perforan venler (Kısa-düz segment)



Teknik: Lazer enerjisi: 50-100 Jul/cm

- İnce damar → 50-60 Jul/cm, 10mm üstü → 90-100 Jul/cm.
- Aspirin, Plavix, Kumadin → %25-50 yüksek
- Reflü başlangıç noktasında yüksek enerji
- Diz altında daha az enerji (parestezi)



Teknik: Tümesent anestezi

1. Lokal anestezi:

- Ağrısız işlem

2. Isı yalıtımı:

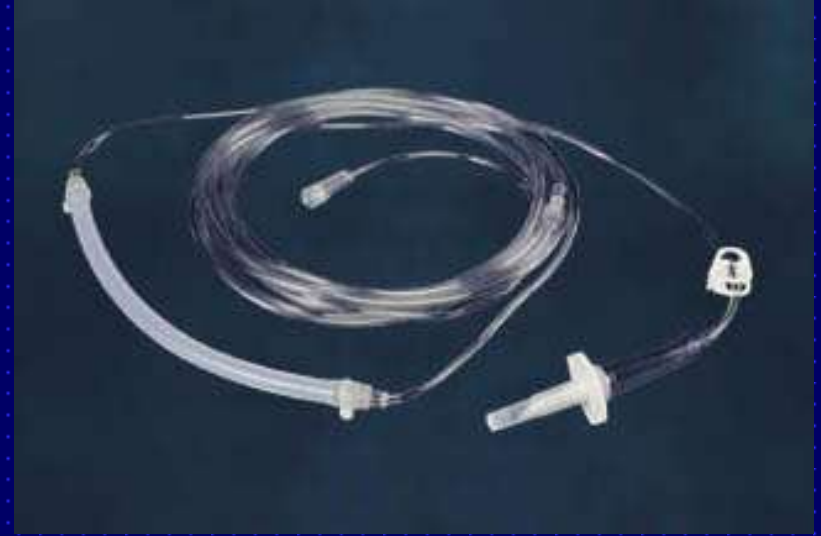
- Perivenöz dokunun korunması

3. Damar kompresyonu

- Ven lümenindeki kanı boşaltır
- Intimal hasar > Tromboz
- Kalıcı kapanma



Tümesent anestezi



Daha hızlı ve etkili tümesent

- Aspirasyon fonksiyonu yok, iğne ucu ven duvarı dışında olmalı !!!
- İntravasküler → Hızlı enjeksiyon, Lidokain+adrenalin toksisitesi

Teknik: Lazer + Köpük

Int Angiol. 2009 Aug;28(4):289-97.

Experience with concomitant ultrasound-guided foam sclerotherapy and endovenous laser treatment in chronic venous disorder and its influence on Health Related Quality of Life: interim analysis of more than 1000 consecutive procedures.

King T, Coulomb G, Goldman A, Sheen V, McWilliams S, Gupta RC.

Illinois Phlebology Group rguptan@hotmail.com.

Abstract

AIM: The aim of this paper was to evaluate the efficacy of the concomitant use of endovenous laser treatment (ELT) and ultrasound-guided foam sclerotherapy (USGFS) in the management of chronic venous disorder and to objectively analyze the influence of the combination therapy on the Health Related Quality of Life (HRQL) of the treated patients. **METHODS:** In this prospective series, 1 114 varicose veins in 924 consecutive subjects were treated either with a 980 nm (7-15W) or a 1320 nm (3-10W) endovenous laser. Inclusion criteria: informed consent, clinical, etiologic, anatomical, and pathophysiological (CEAP) clinical class 2, and an accessible vein. Exclusion criteria: coagulation disorder, pregnancy, lactation, current thrombosis, systemic disease, poor general health, or allergy to sodium tetradecyl sulfate (STS). ELT was performed on refluxing saphenous truncal and non-saphenous veins, including incompetent perforators. USGFS was utilized to treat selective refluxing, symptomatic varicose tributaries that were not amenable to ELT alone. The Venous Dysfunction Score (VDS) and Health Related Quality of Life (HRQL) were assessed. All of the patients were strictly monitored and had Duplex ultrasound scanning to evaluate for deep vein thrombosis (DVT) at 24-72 hours. Thorough Duplex scanning was done at 1 week, 1 month, 3 months, 6 months, 12 months, and 24 months. **RESULTS:** At 1 month, there was continued reflux (> 0.5 seconds) in 26 SFJs (3.0%, N=824) and 4 SPJs (2.5%, N=155) and at 3 months in 15 SFJs (1.8%) 5 SPJs (3.7%). At 6 months, reflux was present in 10 SFJs (1.2%) and 4 SPJs (2.5%). At a mean of 12 \pm 10 months of post-treatment follow-up, 4 SFJ (1.9%, N=207) and

J Vasc Surg. 2008 Oct;48(4):940-6. Epub 2008 Jul 18.

Endovenous laser and echo-guided foam ablation in great saphenous vein reflux: one-year follow-up results.

Gonzalez-Zeh R, Armisen R, Barahona S.

Clínica de Várices Doctor González Folch, Santiago, Chile.

Abstract

BACKGROUND: Great saphenous vein (GSV) reflux is the most frequent form of venous insufficiency in symptomatic patients and is commonly responsible for varicose veins of the lower extremity. This non-randomized prospective controlled study was designed to test the hypothesis that 1) endovenous laser treatment is more effective than foam sclerotherapy in the closure of the refluxing GSV (as measured by degree of great saphenous vein reflux and venous clinical severity score changes) and 2) to record the associated complications of echo-guided endovenous chemical ablation with foam and endovenous laser therapy for the treatment of great saphenous vein reflux and to further identify risk factors associated with treatment failure. **METHODS:** Between January 1, 2006 and June 25, 2006, patients seeking treatment of varicose veins at a private practice of vascular medicine were assessed for the study. Inclusion criteria were: 1) presence of great saphenous vein reflux and 2) C2-6, Epr, A s, according to the CEAP classification. The selected patients consented into the study and were allowed to choose between foam (53 patients) or laser (45 patients) treatment. Duplex examinations were performed prior to treatment and at seven and 14 days, four weeks, six months, and one year after treatment. Venous clinical severity score was assessed pre-treatment

Varislerin tedavisi

Lazer + Köpük

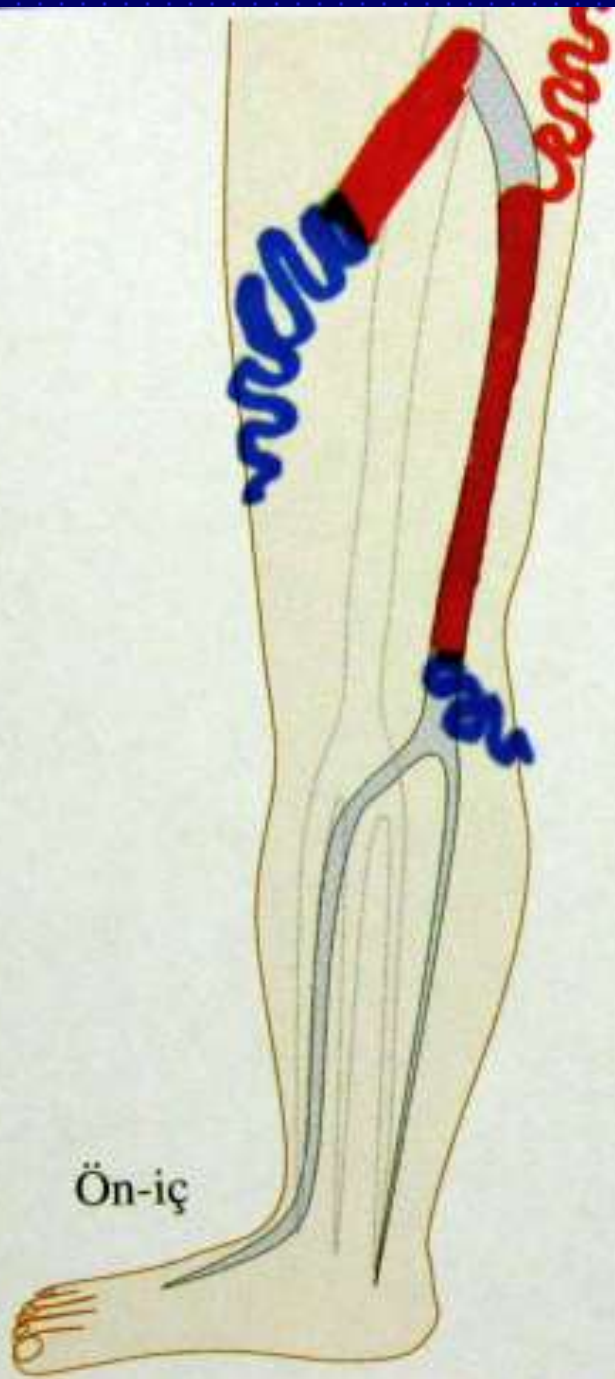
- Tek seansta Safen Ven + Varis tedavisi
- Varis çorabı-bandaj süresi kısa
- Anestezi altında ağrısız tedavi.
 - **Hasta memnuniyetinde artış**
- Köpük safen vene geçer, termal+kimyasal ablasyon, lazer enerjisi azaltılabilir
 - **Rekanalizasyon riski düşebilir**
 - **Postop ağrı azalabilir**
- Distaldeki varisler tromboze olmadan tedavi
 - **Yüzeyel tromboflebit önlenir.**

Kompresyon

Varis orabı ± Bandaj

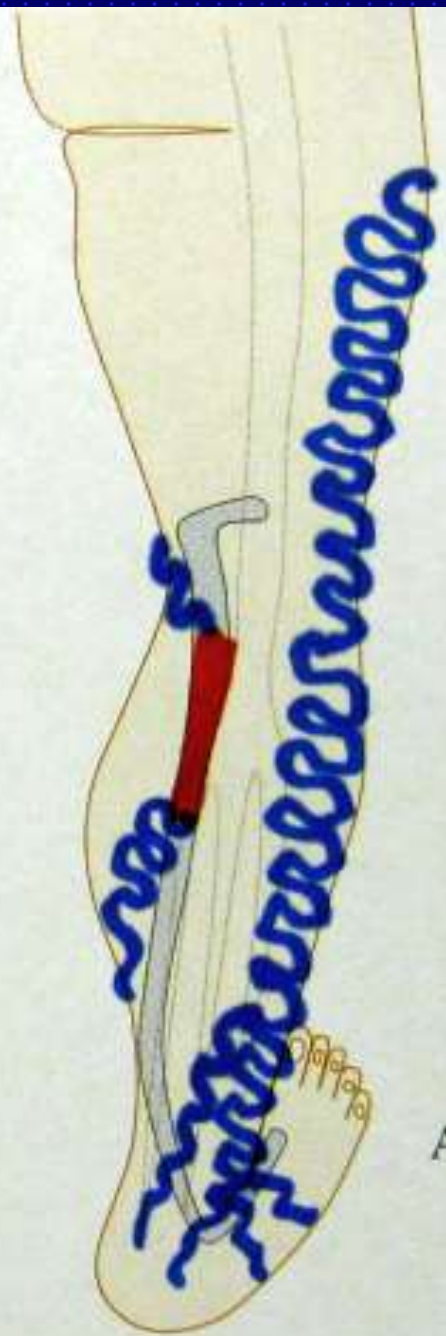






Ön-iç

-  Yüzeysel venler
-  Derin venler
-  Reflü
-  Varisler



Arka-dış





Öneriler

- EVL tek başına varis tedavisi değil !
- EVL varis hastalarının $\frac{1}{2}$ sinde yapılabilir, VY semptomları azalır, varisler kalır !
- Mutlaka skleroterapi/flebektomi öğren
- Retiküler spider varisleri küçümseme
- Damarı değil hastayı tedavi et