

CONTROVERSES ET ACTUALITÉS EN CHIRURGIE VASCULAIRE CONTROVERSIES & UPDATES IN VASCULAR SURGERY

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MARRIOTT RIVE GAUCHE & CONFERENCE CENTER

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Venous malformation treatment : limits of sclerotherapy and endovenous laser treatment

A Bisdorff-Bresson¹, A Larralde , C Laurian ³, C Massoni-Laaneh, N Paraskevas ³, P
Cerceau ³ A Aymard, JL Gérard², D Salvan, N Le Clerc, B Faucon, M Borsik F
Lemarchand-Venencie¹, E Houdart¹

Consultation des Angiomes , Hôpital Lariboisière, Paris, France

¹ Sce Neuroradiologie et d' ORL de l' Hôpital Lariboisière , Paris

CHU Pontchaillou, Rennes

² Hôpital Henri Mondor

³Hôpital Bichat et Hôpital St Joseph



Disclosure

Speaker name:

.....Annouk Bisdorff Bresson

.....

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



Limits are determined by:

- VM location : CF versus LE / UE/ Trunk
- VM proximity with vascular bundles / nerves
- VM poche size > 4 cm / draining veins
- VM Type I – IV
- Sclerosant choice :
 - resorbable ? Non resorbable ?
 - Complication risk : ETOH versus foam
 - Endovenous laser ? RF ? Cryotherapy ?
- Associated LIVC : D Dimer level
- Price ETOH<FOAM<Laser<RF<Cryo etcc

Classification Puig / Dubois

Pediatr Radiol (2003) 33: 99–103 DOI 10.1007/s00247-002-0838-9 ; Stefan Puig; Hussein Aref; Valerie Chigot; Beatrice Bonin Francis Brunelle

- Type I Isolated malformation without peripheral drainage 13 (30%)
- Type II Malformation that drains into normal veins 16 (37%)
- Type III Malformation that drains into dysplastic veins 9 (21%)
- Type IV Venous ectasia 5 (12%)

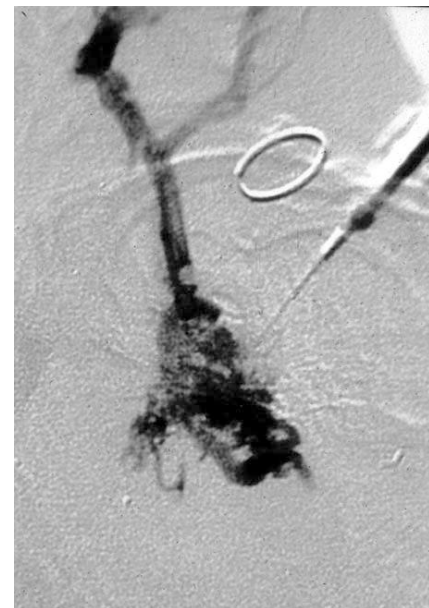
} Sclero ttt ++



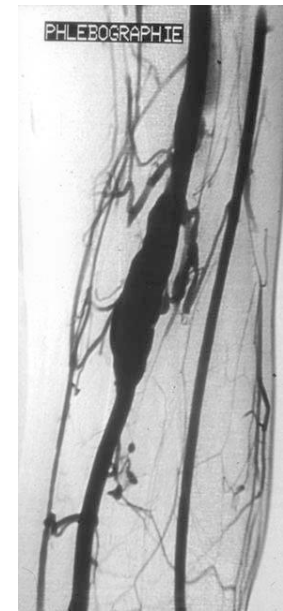
Type I



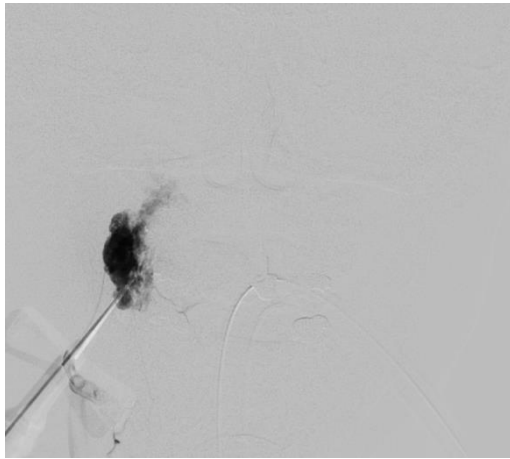
Type II



Type III

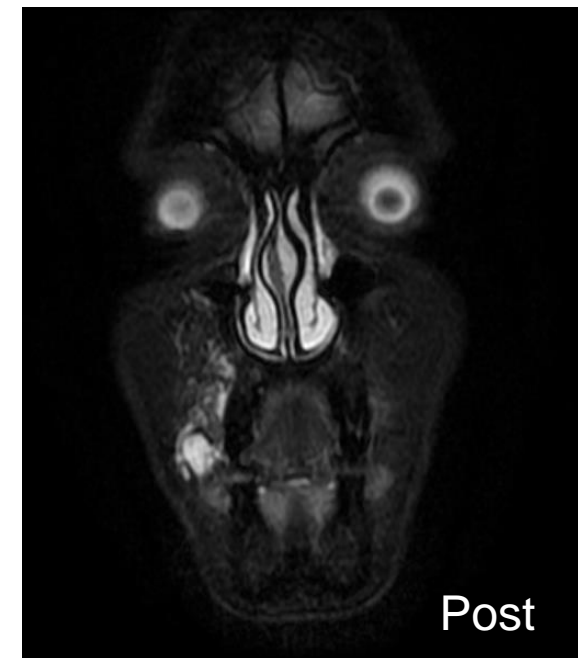
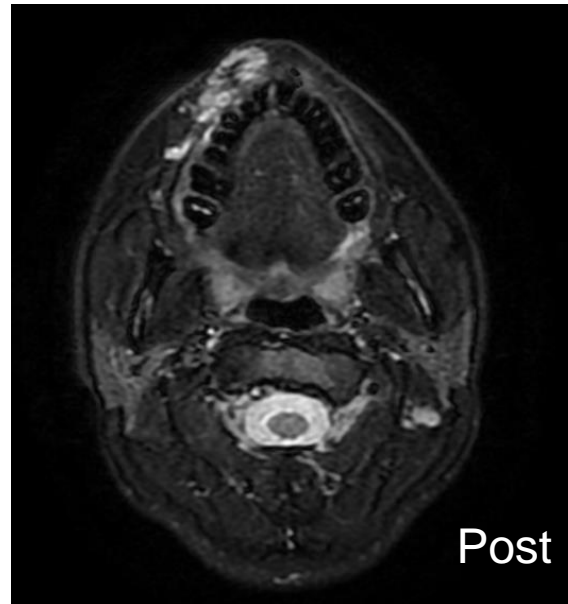
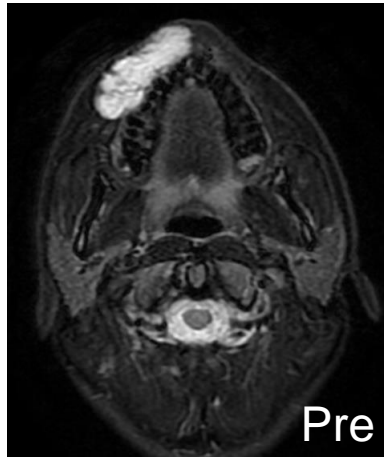


Type IV

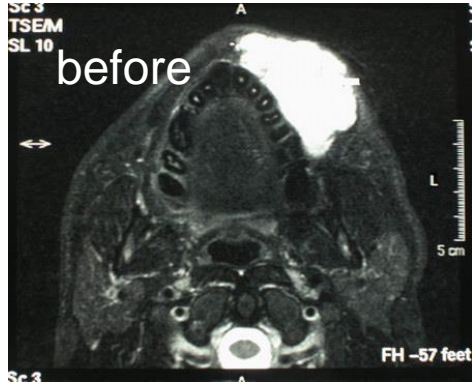


direct puncture
technique ETOH

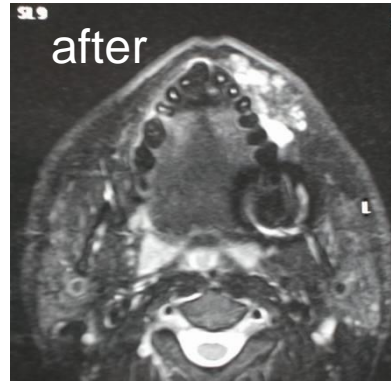
Type I classification



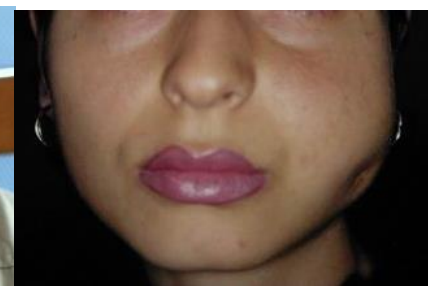
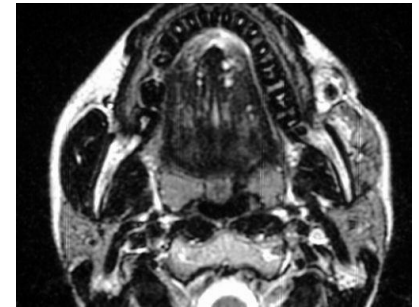
After ETOH sclerotherapy



before



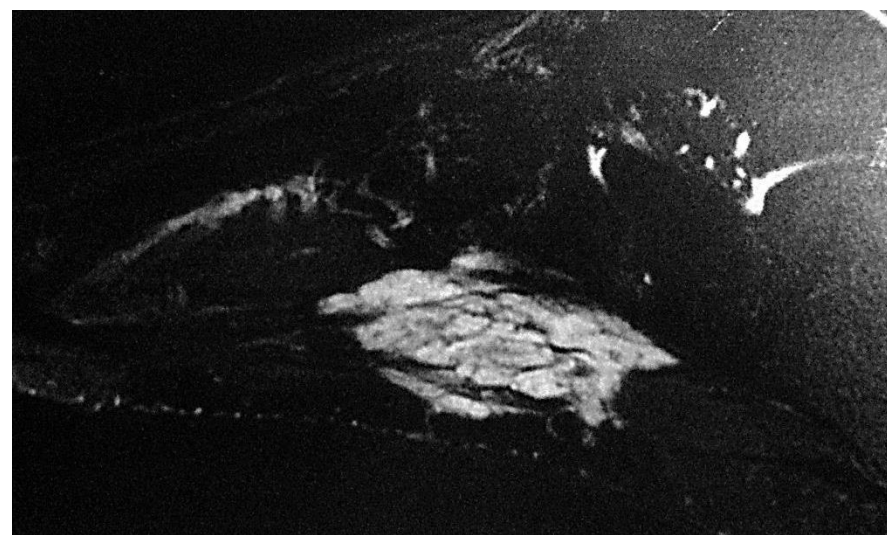
after



before

after

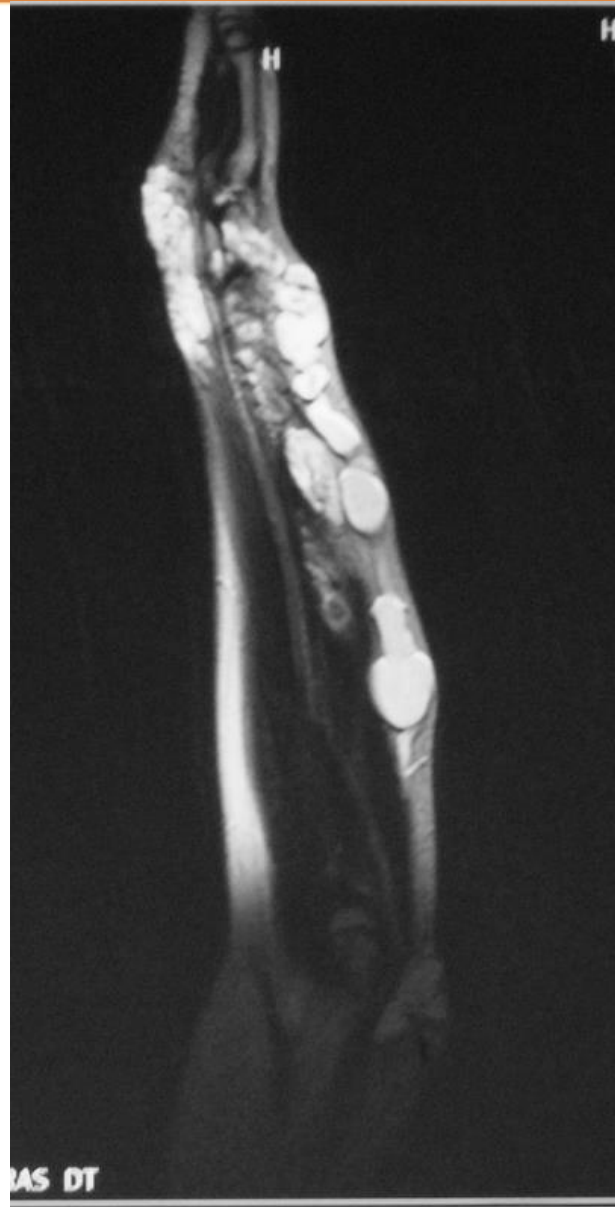
TYPE I = Well limited VM : Results before and after ETOH embolisation



Type I

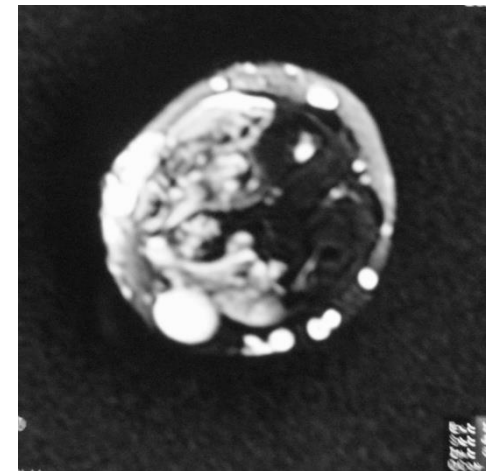


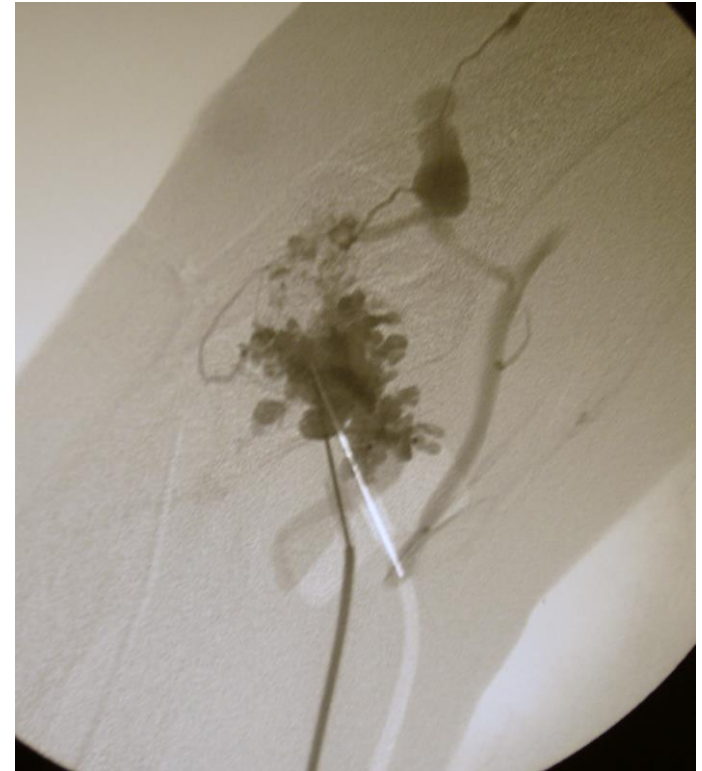
ETOH and Aetoxisclerol sclerotherapy plantar foot location : nerve / vascular risk ++



Type III –IV

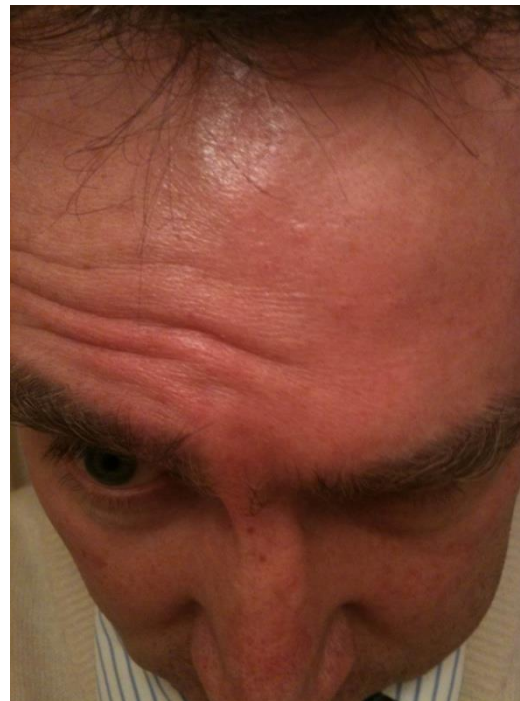
Sclerotherapy inappropriate





Type III + IV : sclerottt ineffective

Draining veins ++



- Sclero limits : locations
:
- Subcutaneous
 - Nerves
 - Sclero under fluoroscopy
 - Follow up the **skin coloration during and after procedure**
Blisters ? ICING ++



Endovenous laser ttt : indication and limits

ENT location >>>> UE and LE



Laser good indication in ENT locations: superficial and submucosal locations





6 MO after 1 Laser session

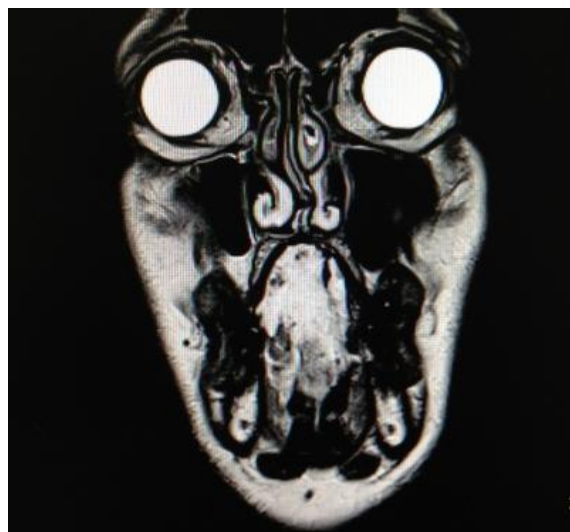
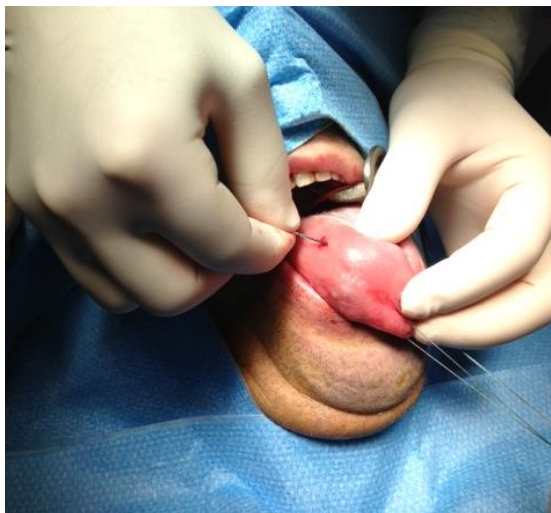
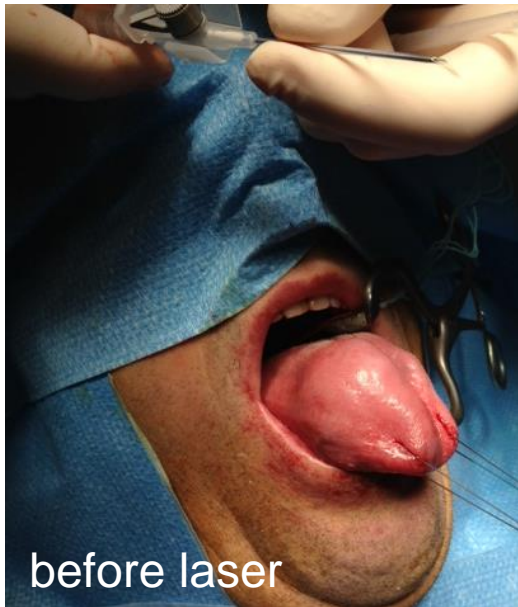
Dr Larralde, Dr Aillet, Rennes



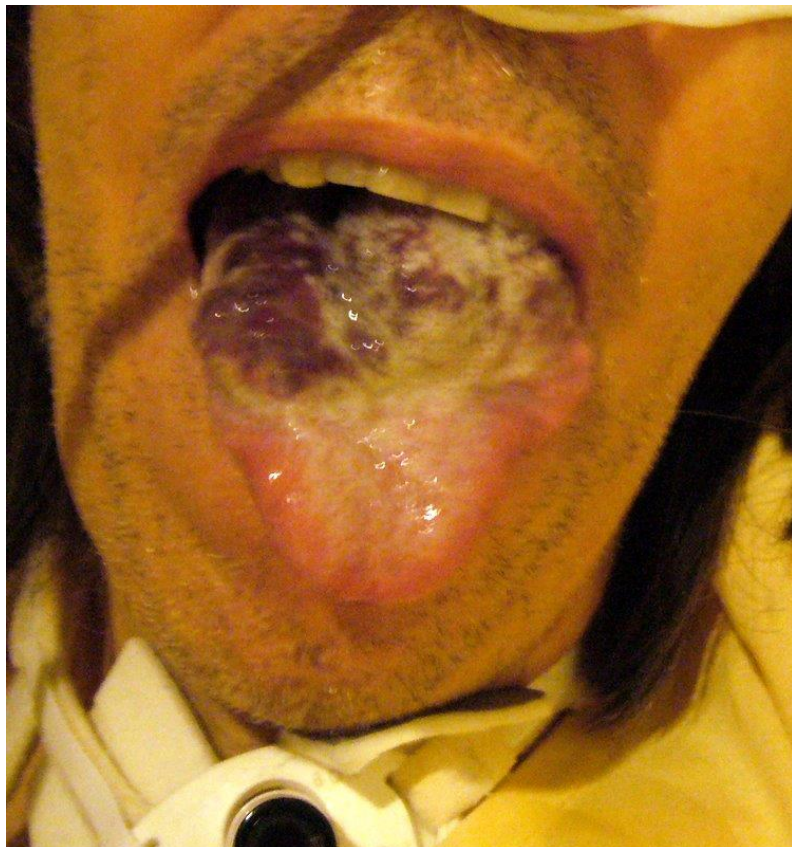
Endovenous laser TTT



Dr B Faucon

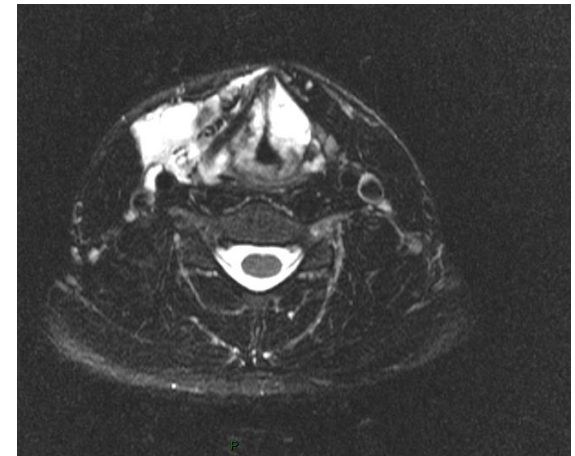
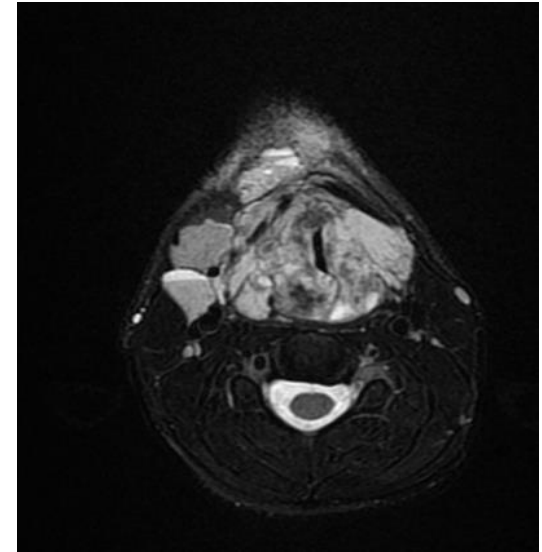
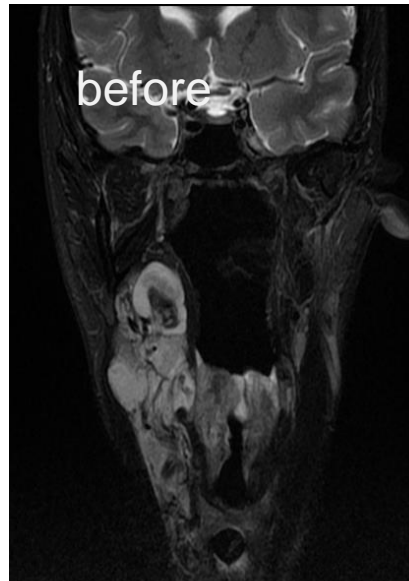


After laser



Dr E Sauvaget

Before and after 2 laser session



Deep oropharyngeal ENT location with sleep apnea



Large pouches : Radial fibers





Combined endovenous laser ttt and sclerotherapy



8 punctures 4970 Joules at 7
W + 6 ml of Foam

Dr Larralde, Dr Bisdorff Rennes



1 Mo après 1 laser + Mousse d'Aetoxi



- Subcutaneous pectoral location : diode laser (500 J à 8 W) and 2 ml Aetoxi3% foam
- Axillary part : ETOH 6 ml +Lipiodol 2 ml then Aetoxi3% foam



1 semaine post Laser et Aetoxi 3 % sclerott : 2 x 72 h

Pre

1 semaine après ttt

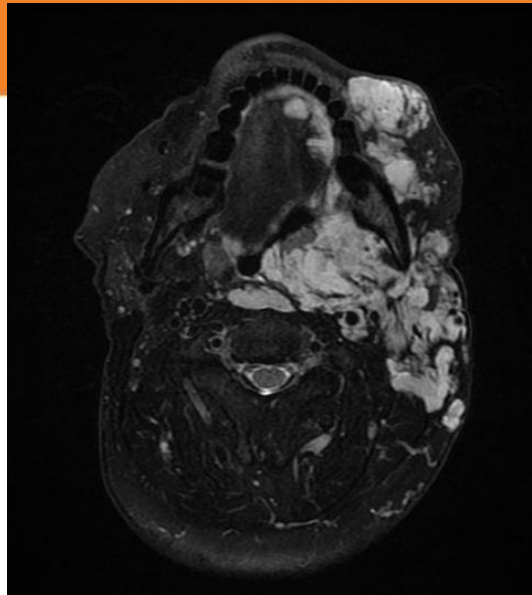
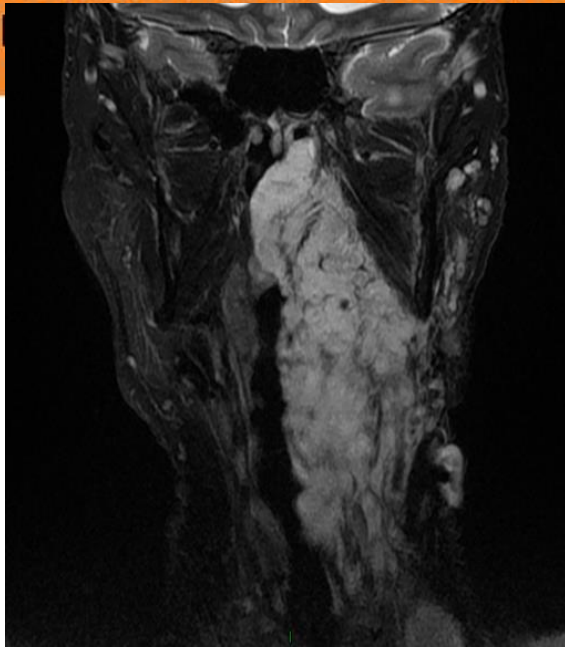


Learning curve +++ Necrosis risk

Local ttt and ATB TTT no surgery



6 mo post



Deep locations nerves are difficult to visualize



Permanent nerve palsy post laser ttt



Limitations

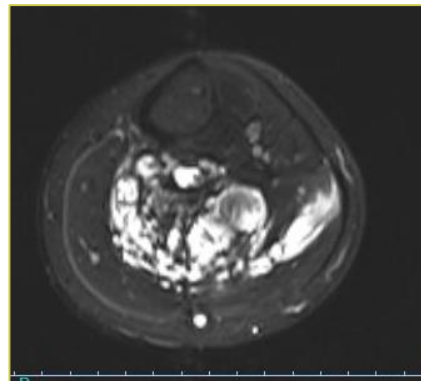
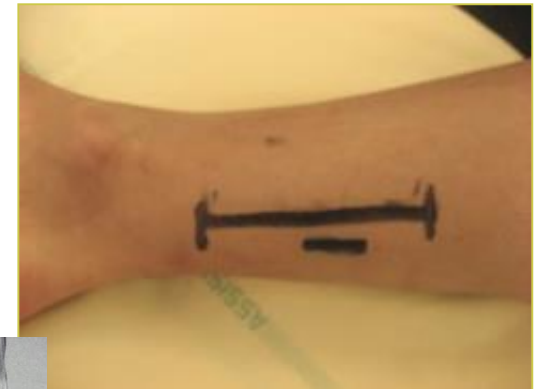
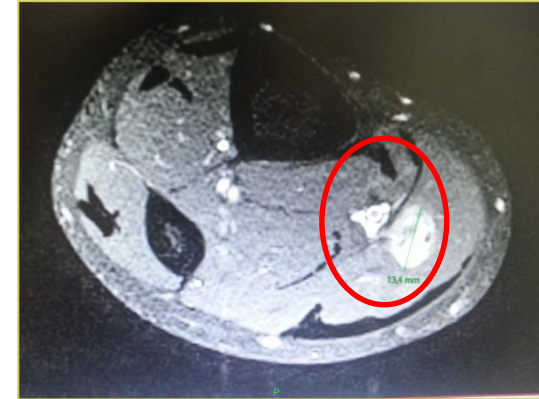
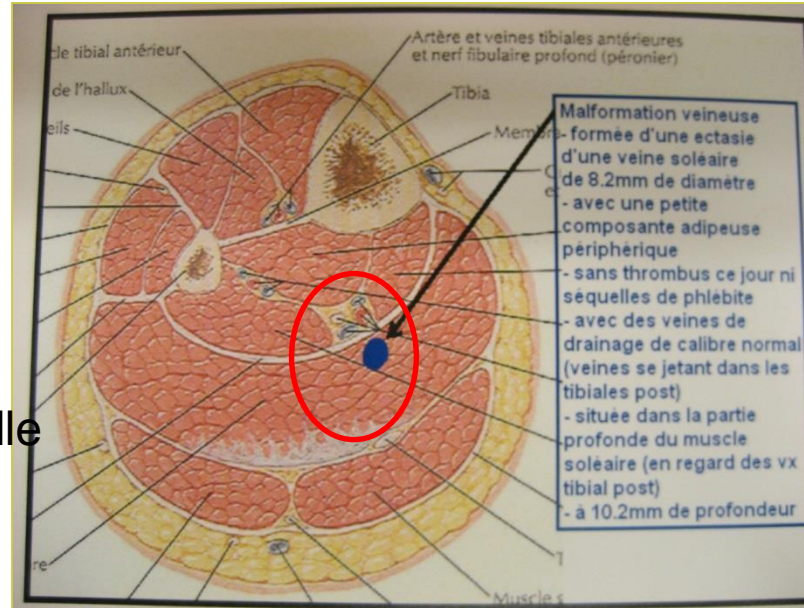
Large diffuse VM

Extensive VM LE/UE

Proximity vascular bundle

Draining veins in UE/LE

Or dysplastique type III and IV VM



LIVC +++

TTT indication MV diffuse VM ?

LMWH TTT prior



Figure 3. The three patients facing the most severe grade IV to V complications. Top panel: A 9-year-old boy with an extensive and diffuse venous malformation (VM) of the retroperitoneum, paraspinal muscles, and spinal canal. VM dislocates the right kidney anteriorly and causes mild hydronephrosis in the left kidney. T2-weighted fat-saturated axial magnetic resonance (MR) image before (a) and after (b) several procedures shows reduction of the mass. Angiography image of bleeding from the phrenic artery, complicating sclerotherapy of the lesion (c). Middle panel: A 45-year-old man with extensive infiltrating VM in the pelvis, perineum, and right thigh. A large malformation mass hangs from the perineum (d). Extent of the lesion in T2-weighted fat-saturated axial MR image (e). Fluoroscopy image of the sclerotherapy procedure reveals wide venous structures filled with contrast material (f). Bottom panel: A 32-year-old woman with extensive VM involving the entire right arm and axilla (g). T2-weighted fat-saturated coronal MR image shows the lesion extending into the thorax cavity (h). CT image of a fatal multifocal intracerebral haemorrhage after the sclerotherapy procedure (i).

Original Article

Sclerotherapy complications of peripheral venous malformations

Johanna Aronniemi¹, Eeva Castrén², Kimmo Lappalainen¹, Pia Vuola³, Päivi Salminen⁴, Anne Pitkäranta⁵ and Johanna Pedoia¹

Abstract
 Background: Sclerotherapy is often the primary treatment for peripheral venous malformations. It is mostly sufficient alone, but can be combined with other endovascular techniques. Despite its minimally-invasiveness, it is not without potentially severe complications. Here, we present a case report of sclerotherapy complications in trunk and extremity venous malformations.

Phlebology

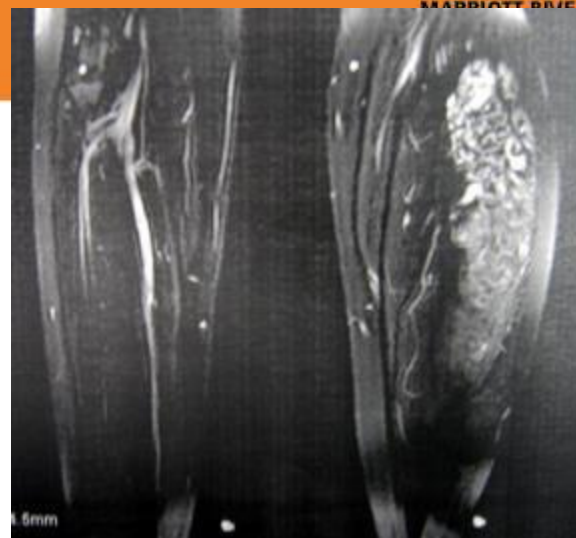
Phlebology
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Malformation veineuse : chirurgie

CONTROVERSIES & UPDATES

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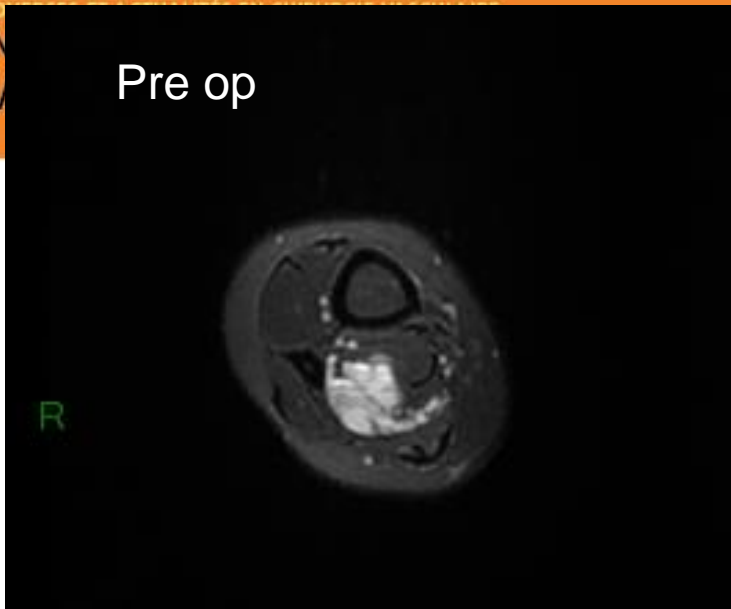
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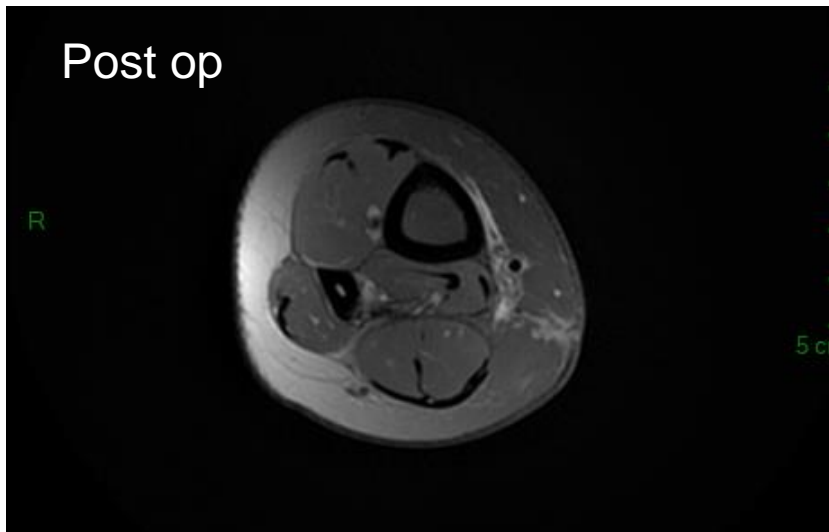
Surgery remains an option in UE and LE !!!!



Pre op



Post op





Courtesy N Paraskevas, P Cerceau

Recovery 3 mo post op



Conclusion :

Handy man : Use the right tool for right location and VM Size

- Principle to avoid complication
Acurate TTT indication ?? : **Does the patient needs a treatment ?**
- Sclerotherapy
 - Type I >>>> IV
 - Location CF >>> versus LE / UE/ Trunk
 - Sclerosant choice : resorbable ? Non resorbable ? Complication risk : ETOH versus foam
- VM poche size > 4 cm / draining veins
- Associated LIVC : D Dimer level +++ / LMWH ttt prior ttt
- Evaluate Price ETOH<FOAM<Laser<RF<Cryo etc

