Going Rogue: Off-the-Grid Venous Malformation
Sclerotherapeutic Techniques and Lesions

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1335 Avenue Of The Americas
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Session 94, 8:52a - 9:00a
Low-Flow Vascular Malformations
Program O (93-96), Diagnosis & Treatment of Vascular Malformations
7a-12p, Friday, November 16, 2018

Discussion Points
• More advanced techniques to assist sclerotherapy
  • outflow occlusion
  • temporary
  • permanent
  • Puig technique
• Off-the-grid lesions
• Glomovenosu lesions
• Hemangioendothelioma

Discussion:
• Nothing to disclose

Outflow Occlusion Techniques
Temporary
- compression
- balloon occlusion
Permanent
- coils
- adhesives

Careful Use of Compression
• do whatever you have to to compress the venous outflow
• think focal, not general i.e. tourniquets . . . for that is the path to the dark side
• remember, contrast is heavier than blood so you may not know what's happening

Legiehn GM, Heran MK. Venous malformations: classification, development, diagnosis, and interventional radiologic management.
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Temporary Balloon Occlusion

- no outflow occlusion
- 2 balloon outflow occlusion
- sclerosant administration

Permanent Outflow Occlusion

- 35 year old female with persisting venous malformation

Temporary Balloon Occlusion

Permanent Outflow Occlusion
Permanent Outflow Occlusion

Permanent Outflow Occlusion
- 25 year old female with persisting venous malformation with phleboliths
Puig Technique

- keeps the sclerosant in the lesion, and not interstitial as a result from over pressurization and rupture
- AND prevents dilution with contrast and keeps it maximally concentrated

Don’t Touch Lesions?

Glovovenous Malformations (GVMs)
- mainly involve the skin and subcutis of extremities
- DO NOT involve deeper muscular structures
- they appear as nodular or scattered, plaque-like or segmental with colors ranging from pink to purplish to dark blue
- may have a distinct raised hyper-keratotic cobblestone appearance
- GVMs cannot be emptied with compression (unlike VMs)
- GVM are painful with compression

GVM Imaging Findings
- always superficial, although minor muscular infiltration can occur
- typical VM T1, and T2/STIR findings, possible phlebotliths

CTA
T1
T2

Non IR Therapeutic Options for GVM
- there is ongoing research into novel therapies targeting signalling pathways
- the treatment of choice is surgical excision
- this may be impractical in large or segmental lesions
- laser
  - combined pulsed dye laser and neodymium-doped yttrium aluminum garnet laser
  - argon and carbon dioxide laser can work for smaller superficial lesions
- may help flatten lesions and relieve pain

Sclerotherapy for GVM
- definitely much less successful than in conventional VMs
- has been described as "successful" or "safe" using:
  - hypertonic saline
  - sodium tetradecyl sulfate
  - polidocanol
  - ethyl-cellulose
- unsuccessfully described using:
  - ethanol
  - Ethibloc®

Sclerotherapy for GVM
- one patient, multiple lesions
  - 0.5-1.5 ml 0.2-3% STS per lesion
  - 3% STS foam AND 23.4% saline

Sclerotherapy for GVM
- one patient, one lesion
  - 1 ml 33% STS

Sclerotherapy for GVM
- one patient, multiple lesions
  - 0.2 ml hypertonic 23.4% saline

Sclerotherapy for GVM
- one patient, multisession
  - 3% STS foam AND 23.4% saline

Spindle Cell Hemangioma
- Originally believed to be a vascular neoplasm with low grade of malignancy because one of the cases developed regional lymph node metastasis, later proved incorrect.
- Currently, more than 200 examples of this lesion have been described, all of which showed benign biological behavior.
- Therefore, the name spindle cell hemangioma seems most accurate.
- Generally occurs in adolescents or young adults.
  - Has been associated with:
    - Maffucci Syndrome
    - Kippel-Trenaunay
    - Congenital lymphedema
    - Epithelioid hemangioendothelioma
    - Superficial lymphatic malformations

Clinical Presentation
- occurs in the subcutaneous tissues of the distal extremities, hand > foot but can occur anywhere superficially
- most present with solitary bluish nodule, however multiple are not uncommon


Non-IR Therapy
- simple excision of lesions of spindle cell hemangioma is curative
- new nodules develop in adjacent skin and soft tissues in 60% of the cases
- a patient with spindle cell hemangioma was successfully treated with recombinant interleukin
- irradiation has been described


Sclerotherapy
- 2% etoxisclerol foam injected under angiographic visualization

ISSVA

WELCOME TO THE ISSVA WORKSHOP 2018

The International Society for the Study of Vascular Anomalies (ISSVA) and the International Federation for Research on Vascular Anomalies (FIRVA) are pleased to announce the ISSVA Workshop for the Study of Vascular Anomalies, which will be held in Seattle, Washington, USA, on October 12-14, 2018.

The workshop will be a major focus on the latest advancements in research and clinical management of vascular anomalies. The scientific program will feature presentations on basic and clinical research, as well as interactive sessions designed to enhance understanding and improve patient care. The workshop will bring together specialists from various disciplines, including pediatricians, dermatologists, radiologists, and other healthcare professionals.

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