

Classification of Vascular Anomalies – Recent up-date of the ISSVA classification

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Conflicts of interest

Scientific grants:

Siemens, Phillips, ab medica, ev3/covidien/medtronic, itm, Toshiba, Cook, W. L. Gore, Bracco

Lectures:

ev3/covidien/medtronic, Biotronic, St Jude Medical, Abbott, Siemens, ab medica, Boston Scientific, itm Flowmedical, Terumo, W. L. Gore, IGEA

Consulting:

1st WITiG, itm Flowmedical, Siemens, ev3/covidien/medtronic, ab medica



ISSVA Classification 2014

Vascular Anomalies

Vascular Tumors	Vascular Malformations		
	<i>Simple</i>	<i>Combined</i>	<i>"Associated with other anomalies"</i>
- Benign			
- Locally aggressive / borderline	Venous M	CVM	Klippel-Trenaunay
- Malignant	Lymphatic M	CLM	Parkes-Weber
	Capillary M	CAVM	Sturge-Weber
	AVM	LVM	CLOVES
	AV Fistula	CLVM	Proteus etc.

Last update May 2018, Buenos Aires

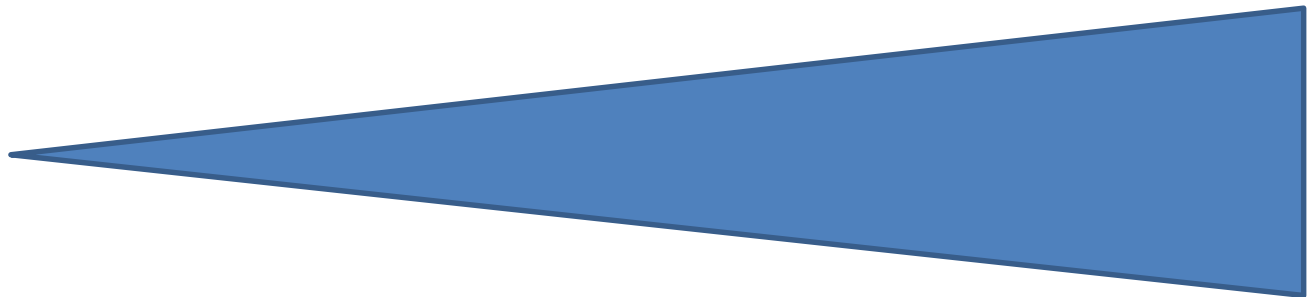
Simpler

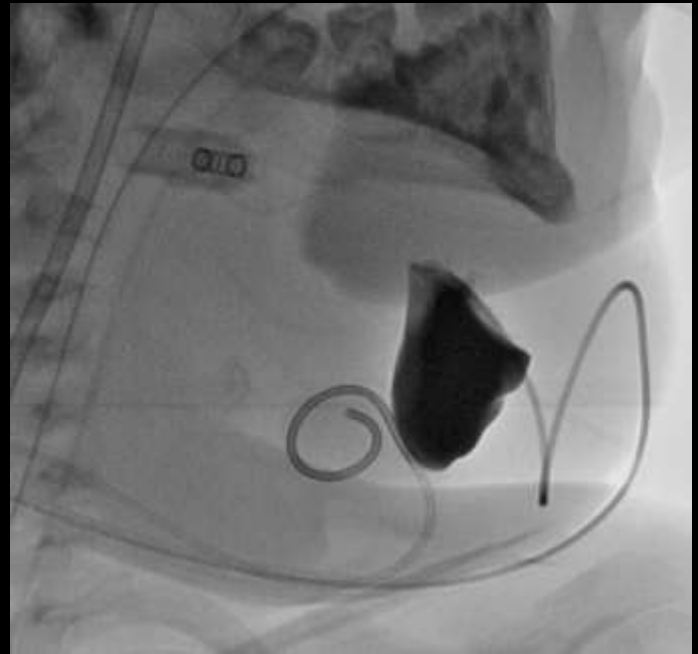
Vascular Anomalies			
Vascular Tumors	Vascular Malformations		
	Simple	Combined	Associated with other anomalies

One type of vessel

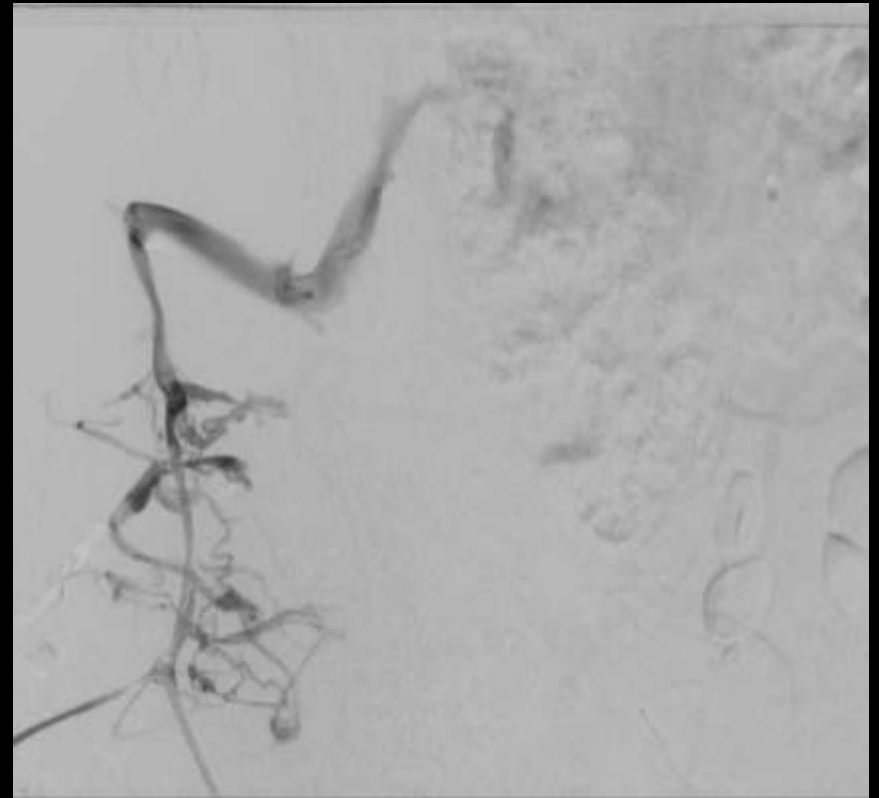
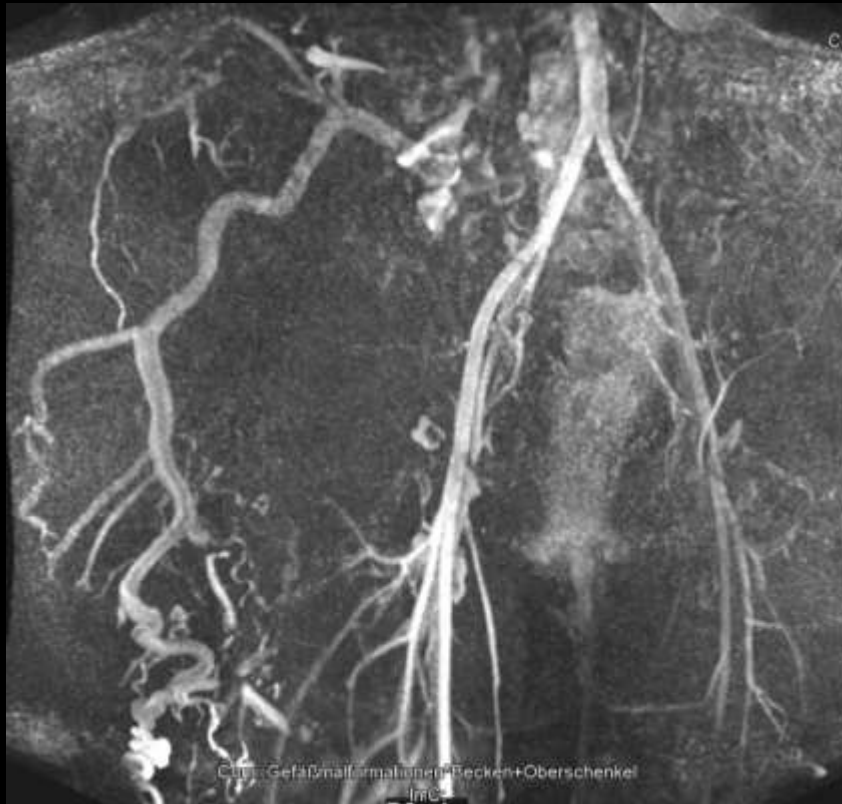
Different involved vessels

+ / - soft tissue / bone

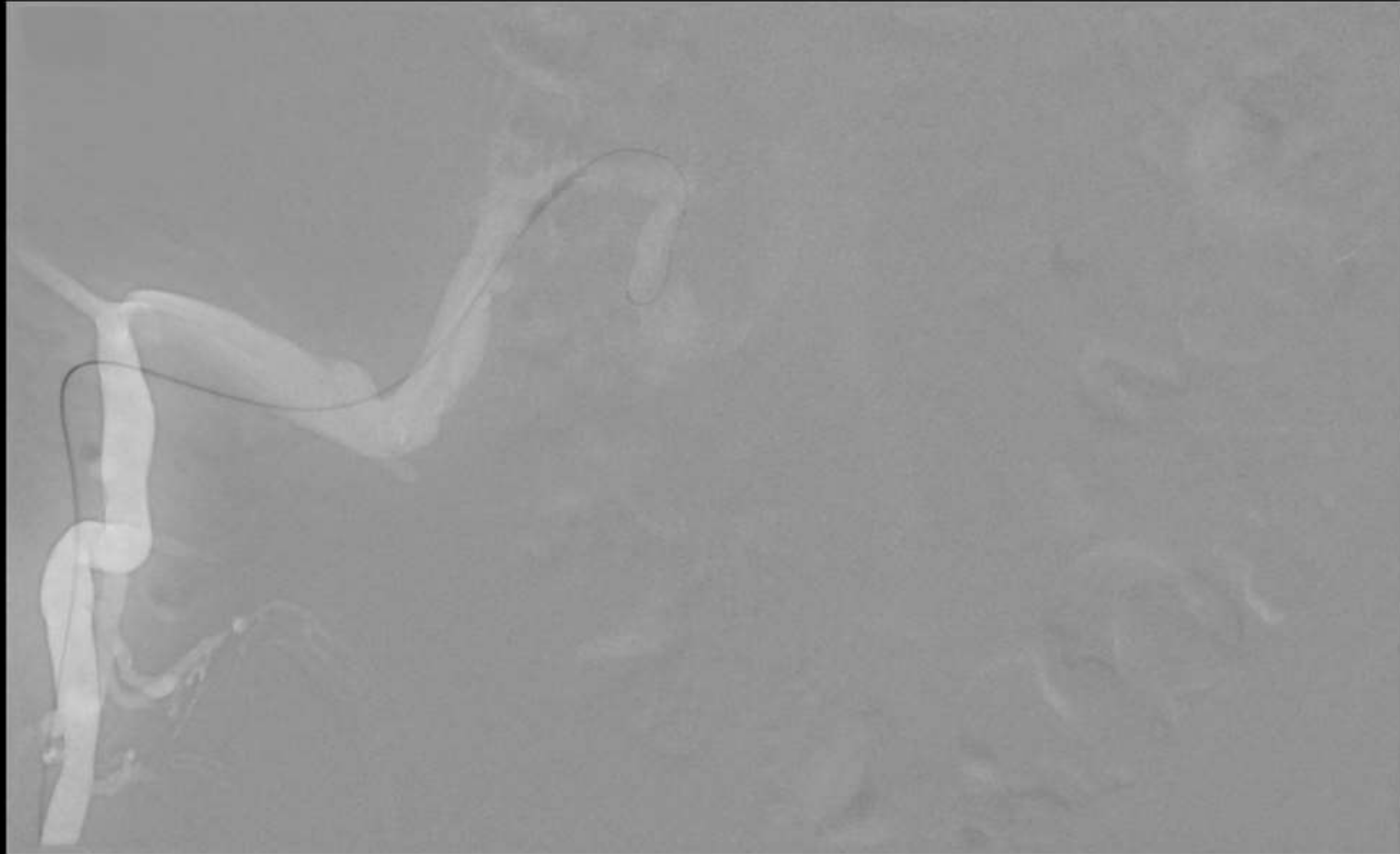




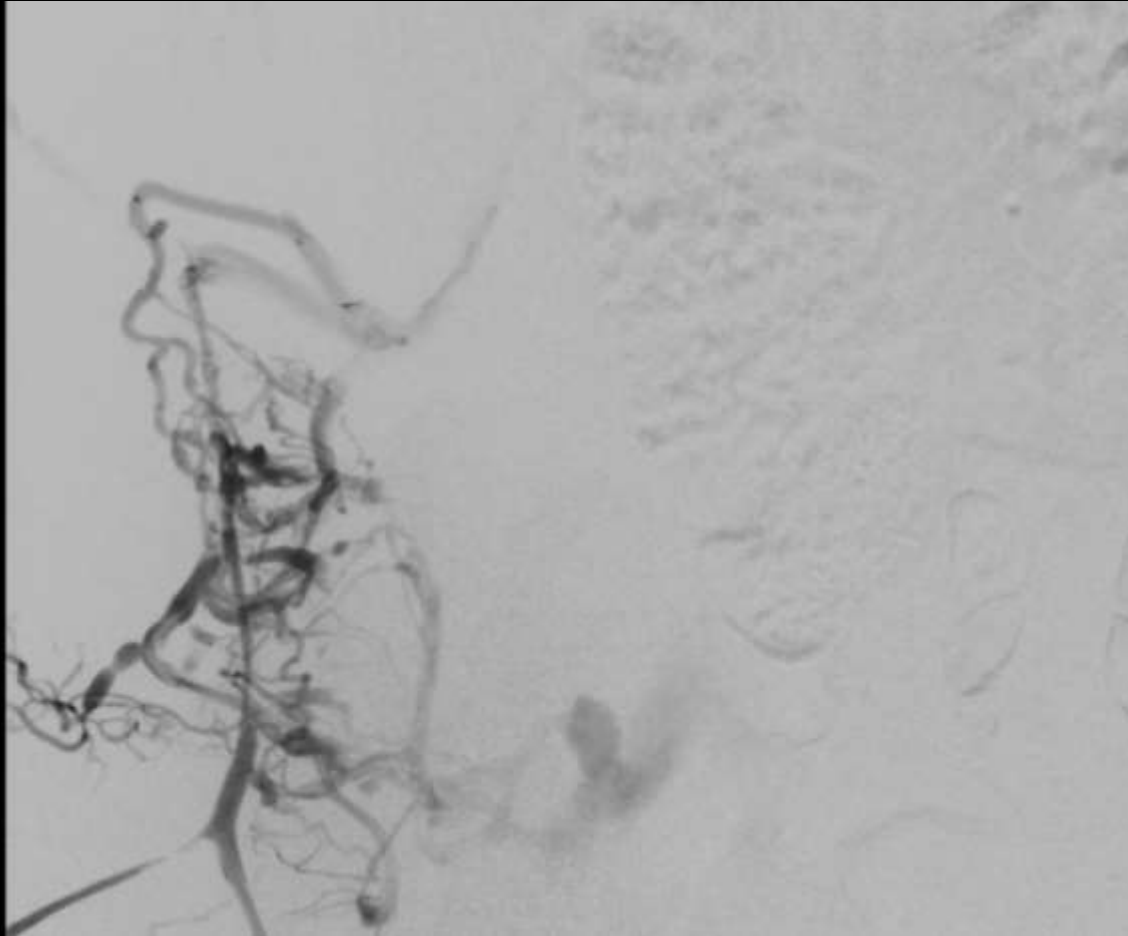
Type V marginal vein (Weber)

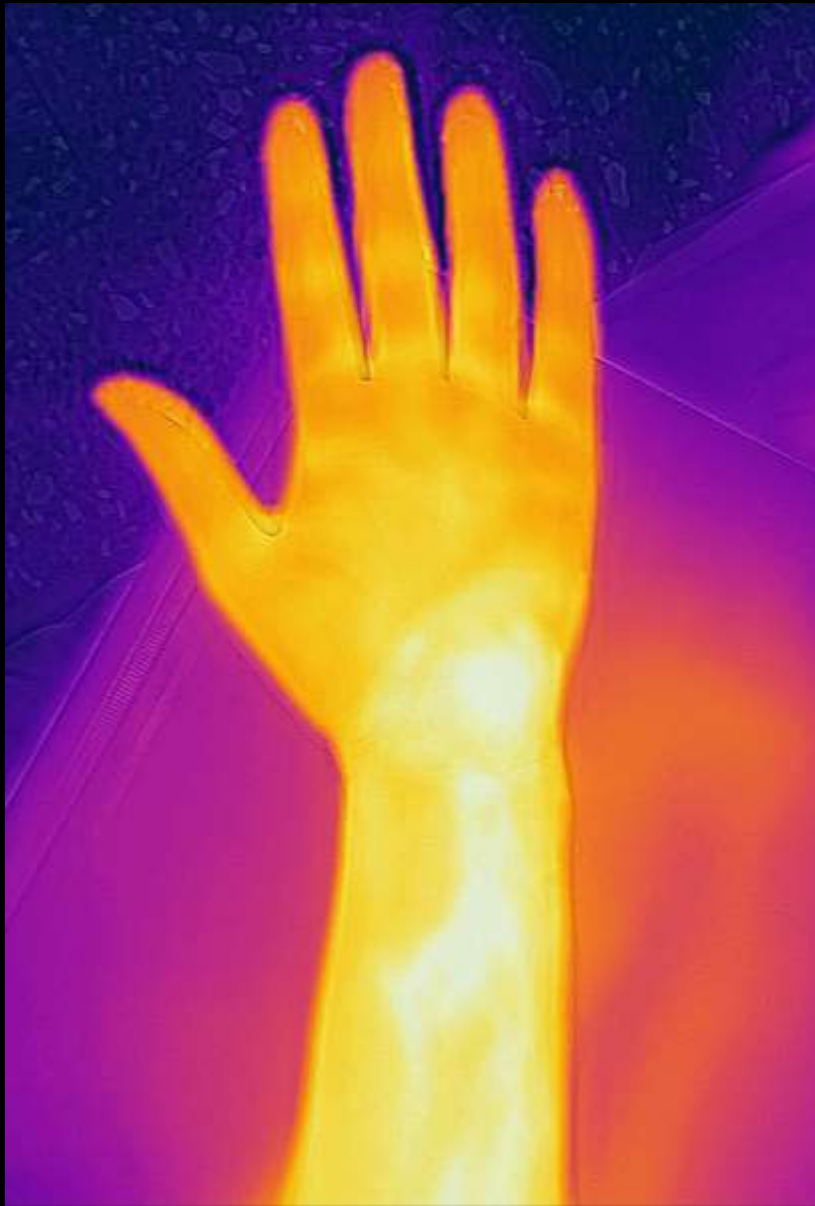


Propagation via 0.018 in guidewire in tortuous vein, radiofrequency ablation

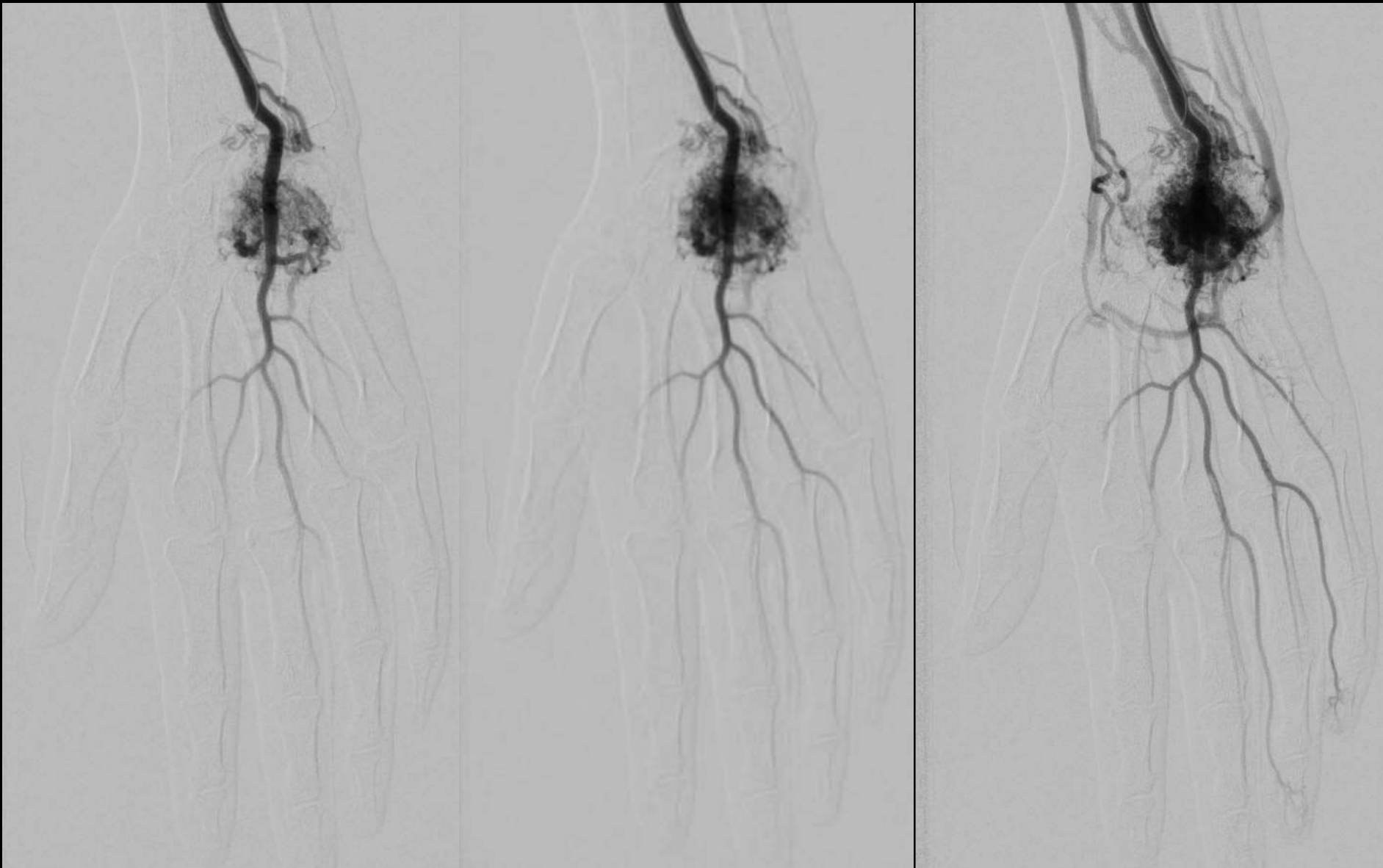


After occlusion foam sclerotherapy via guiding sheath

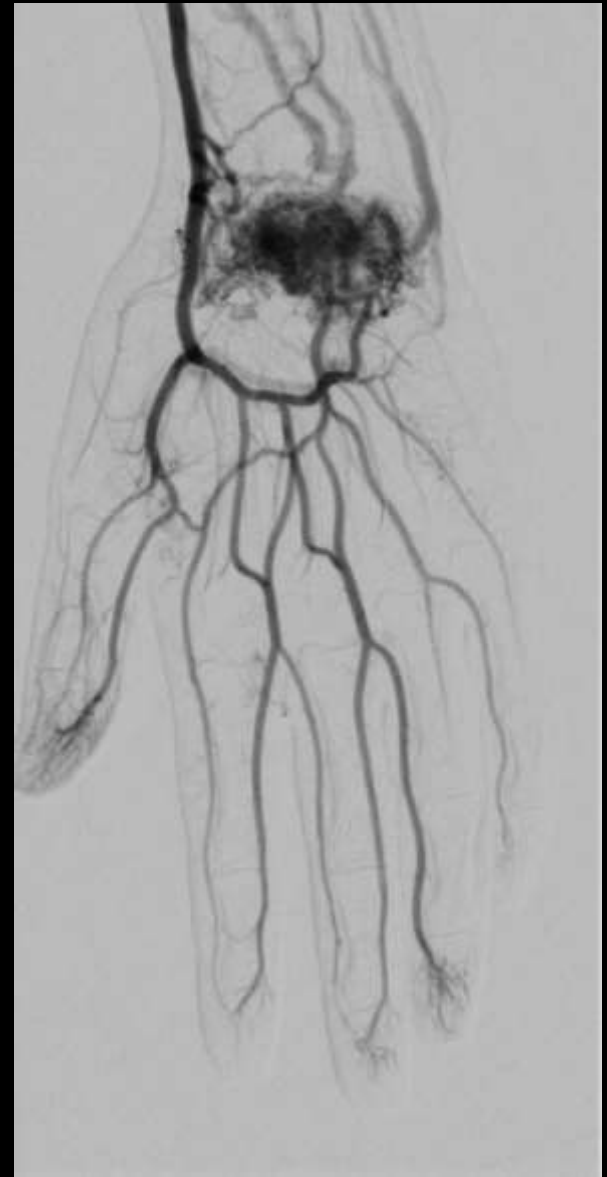
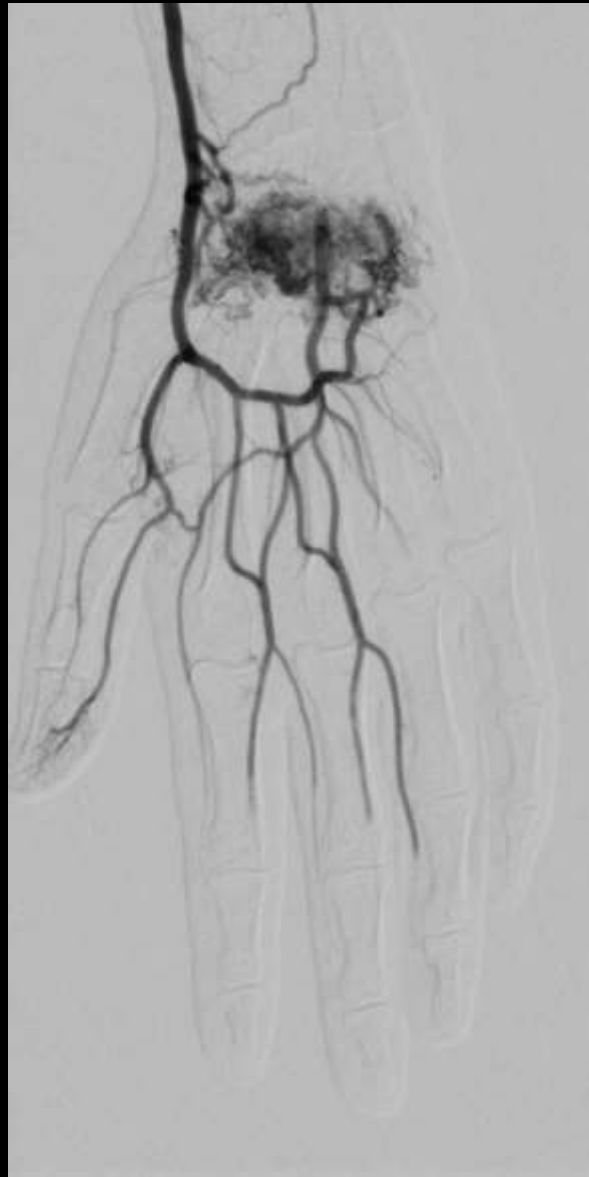




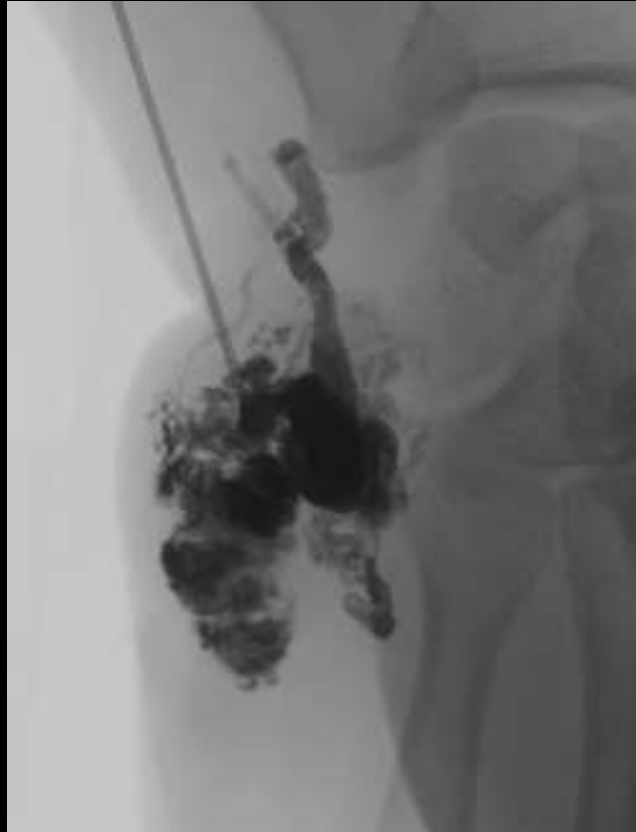
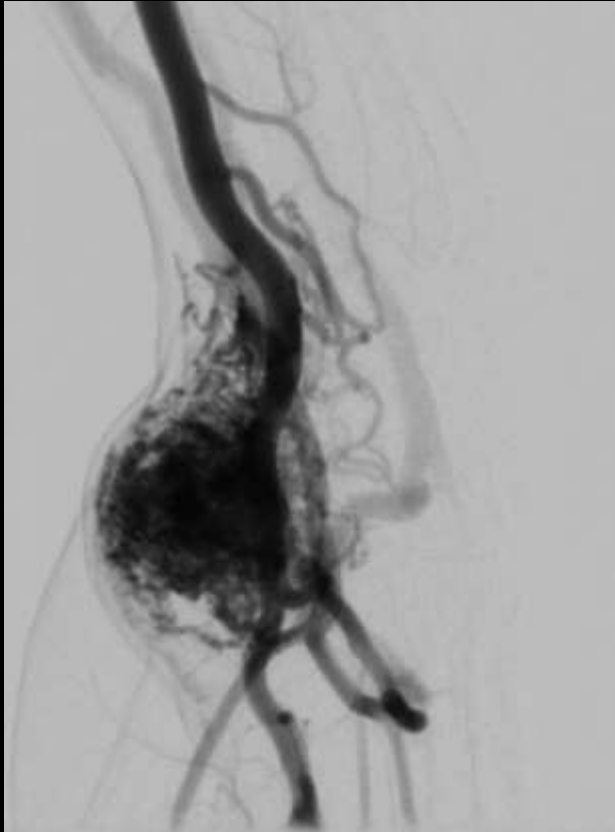
Warm, painful, pulsating, sweating, itching → AVM



Multiple small feeders directly from ulnar A.



And multiple small feeders directly from arch / radial A.



Direct puncture, Plug & Push, 3 vials of EVOH



Immediately after embolisation: temperature normal, fingers fine

News from the last revision

- More genetically based informations

- PIK3CA-related overgrowth spectrum

- More histopathologically driven classifications

Hobnail hemangioma, Microvenular hemangioma, Anastomosing hemangioma
Glomeruloid hemangioma, Papillary hemangioma, Intravascular papillary
endothelial hyperplasia, Cutaneous epithelioid angiomatous nodule, etc

- HHT (M. Osler) is found in 3 different categories

- CM/Teleangiectasia, AVM in HHT, AVF in HHT

- Malformations of major named vessels.....

- Arterial Malformation is lacking until now

Would you take...

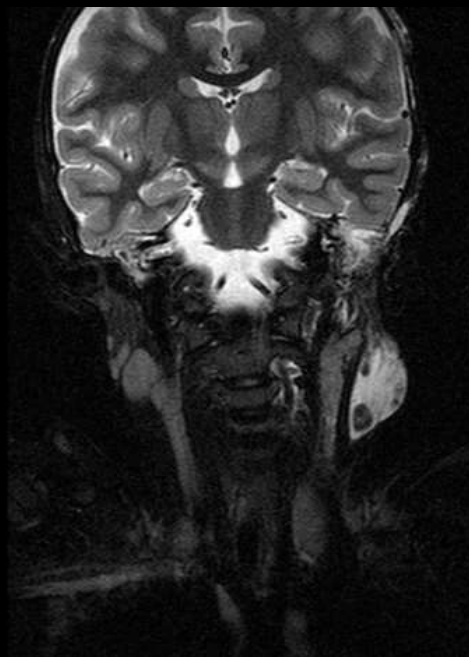
**the red pill
and see
the truth**



**or the blue
pill and go
back to
sleep**



VM patient (*2002), MRI 2006



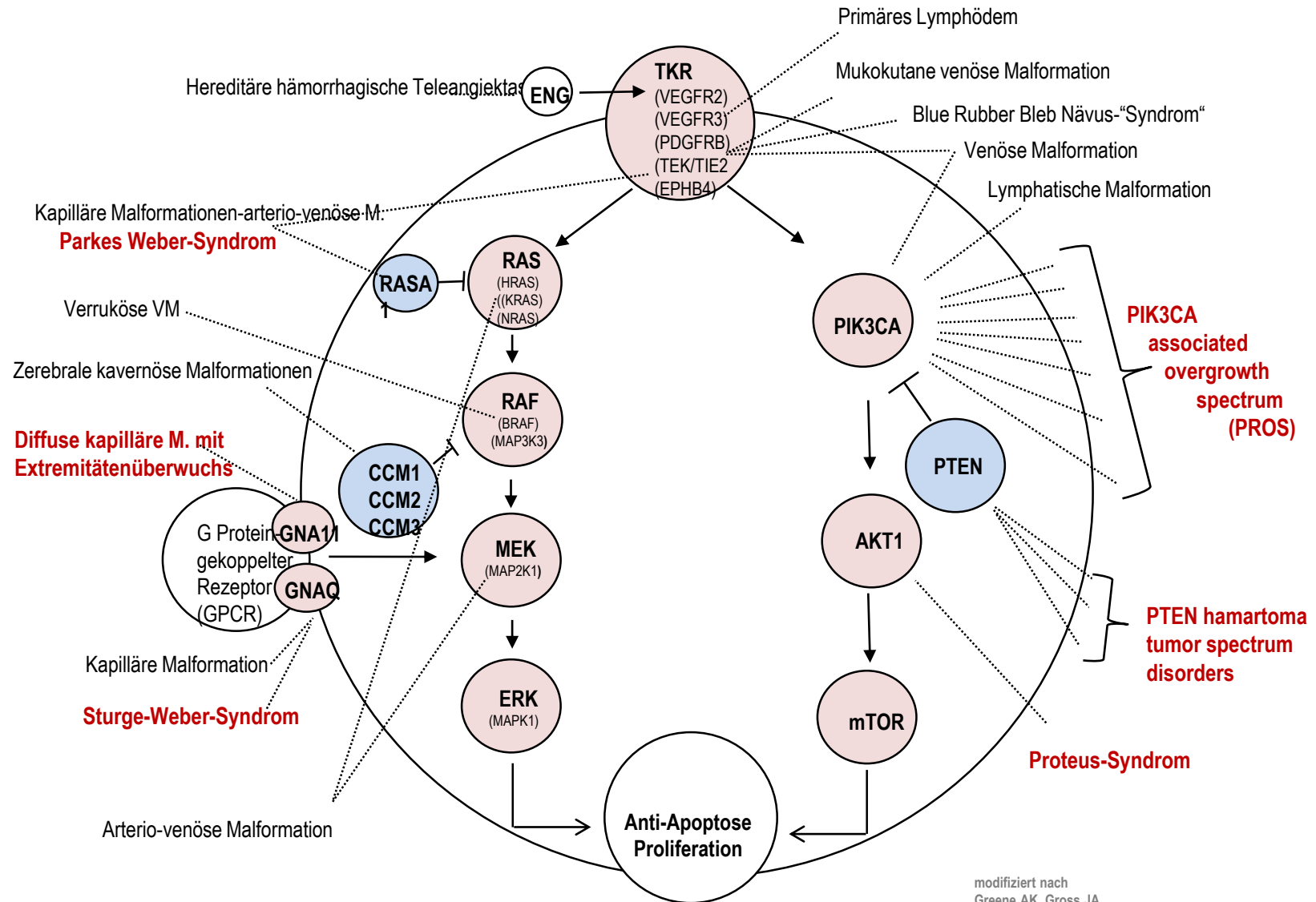
VM patient (*2002), MRI 2019



Massive progress, developed new VM during 13 years

Are vascular malformations inborne developmental tumors?

Vascular Malformations may behave like tumors: apoptosis and proliferation





After the next revision is before the next revision