

# 3d IMAGING of extrinsic deep venous compression

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Organisation  
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enseignement et recherche  
en anatomie numérique  
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CONTROVERSES ET ACTUALITÉS EN CHIRURGIE VASCULAIRE  
CONTROVERSIES & UPDATES  
IN VASCULAR SURGERY

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PARIS, FRANCE [WWW.CACVS.ORG](http://WWW.CACVS.ORG)



# **Extrinsic compression by arteries**

I have no conflict of interest

# To uncover a cause of CVD...

- Deep venous obstruction is frequently hidden and not easily highlighted by USD
- Ivus is expensive and ineffective below the groin

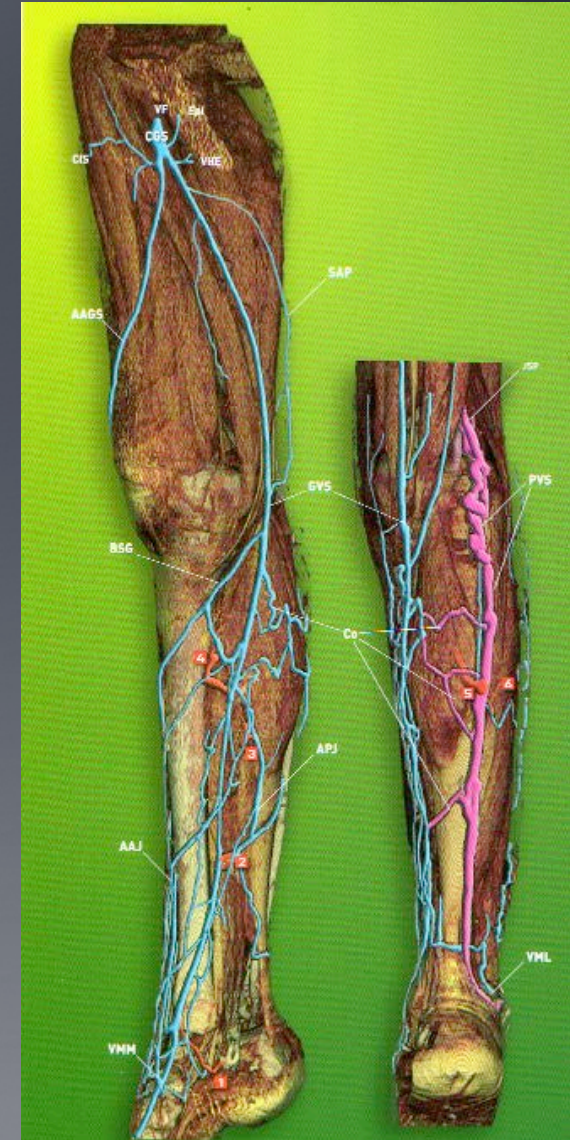


Assessment of the whole deep veins by

CT-VENOGRAPHY should be done in more cases

# MSCT-Venography technique\*

- Direct or indirect MSCTV
- Interactive 3d model
- Whole venous network
- No hemodynamical data
- Duplex mandatory



## Three-dimensional modelling of the venous system by direct multislice helical computed tomography venography: technique, indications and results

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Phlebology 2012;**27**:270–288. DOI: 10.1258/phleb.2012.012J07

# Underlying deep venous abnormalities in patients with unilateral CVD\*

**Original article**

## **Underlying deep venous abnormalities in patients with unilateral chronic venous disease**

**A S Gaweesh<sup>\*†</sup>, M H Kayed<sup>†</sup>, T Y Gaweesh<sup>†</sup>, J Shalhoub<sup>‡</sup>, A H Davies<sup>‡</sup>  
and H M Khamis<sup>†</sup>**

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Case reports with 3D imaging of

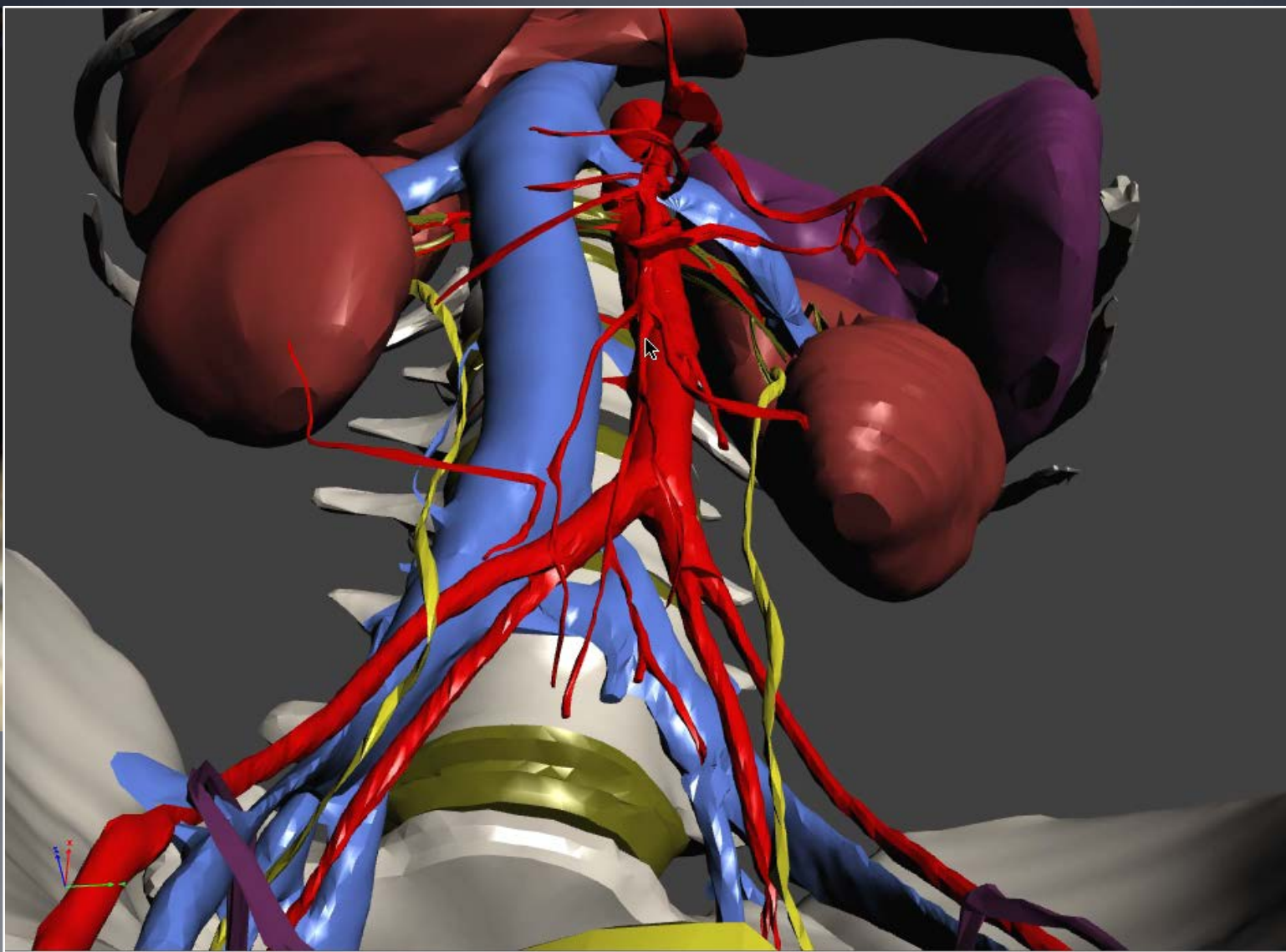
Deep venous compression

by arteries (pseudo May-Thurner sd)

personnal series of 10 cases in 2017

frequent & under-diagnosed +++

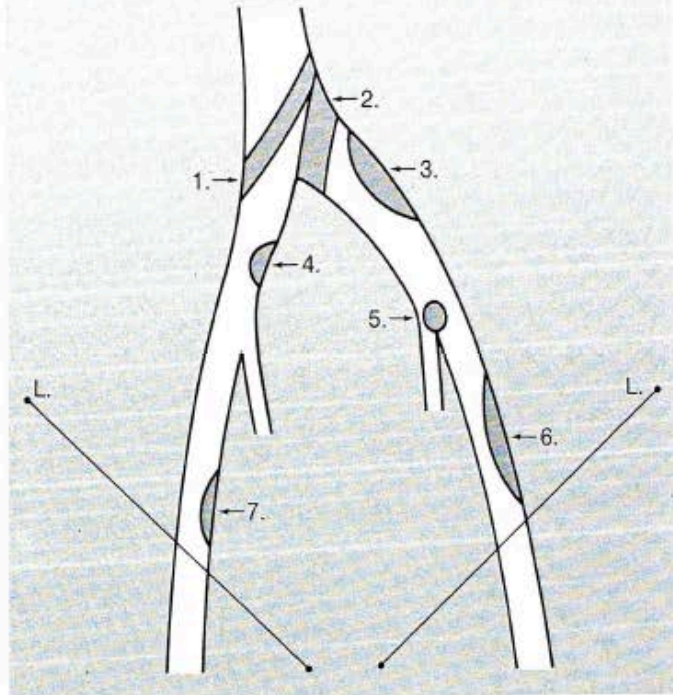
# “classical” May-Thurner Syndrome



FOV 21.0  
TND  
VOI

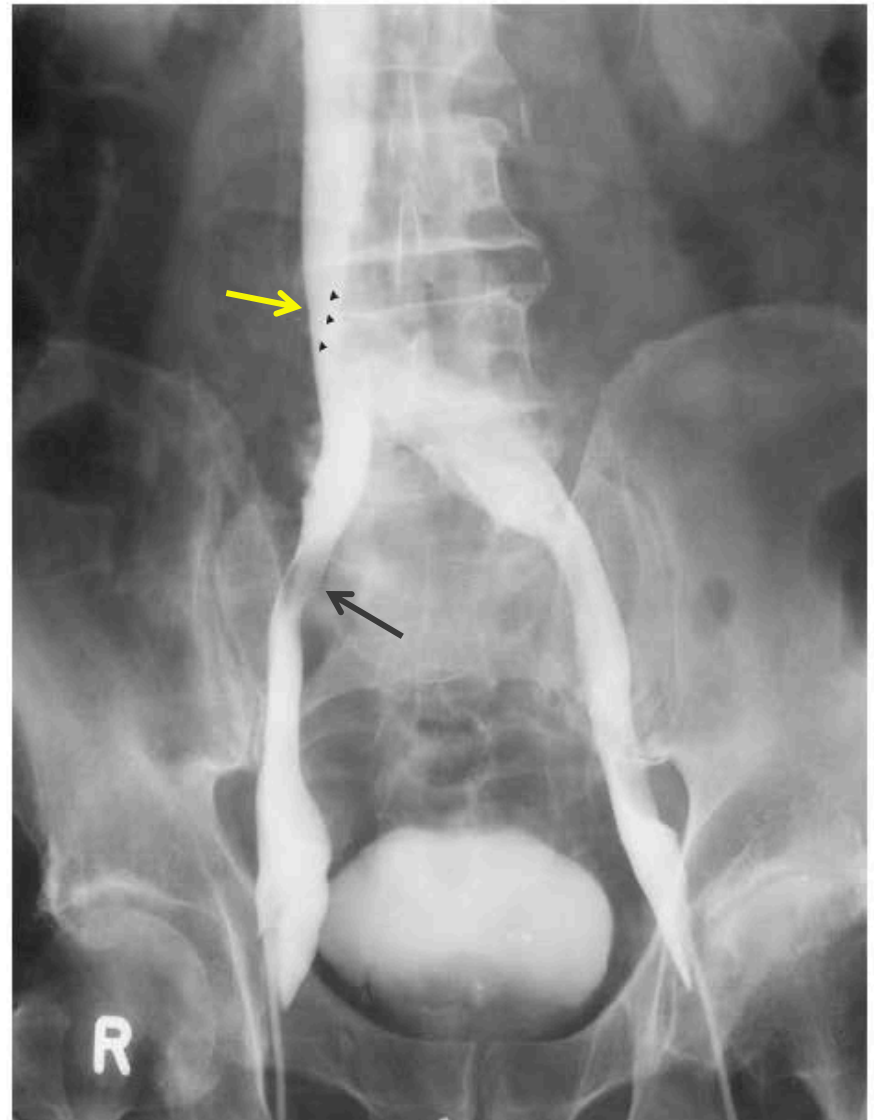


# Other common ilio-caval compressions



- 1: High crossing of RCIA
- 2: classical compression by RCIA
- 3: compr. by LCIA
- 4: compr. REIA
- L= inguinal Ligament

*(from Lea Thomas)*





# Case report 1

WL: 276 WW: 188



CTV: synechia +  
stenosis of RCIV



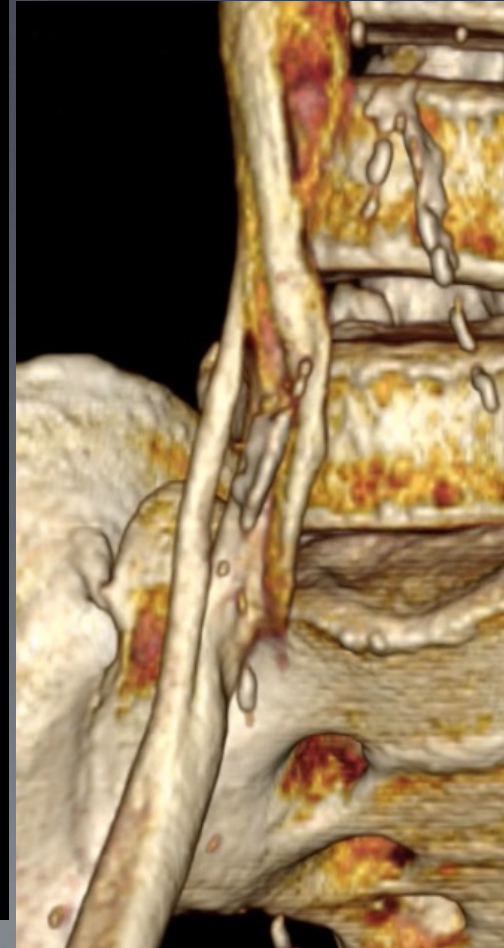
# Case report 2



WL: 251 WW: 190



CTV: synechia +  
stenosis of RCIV

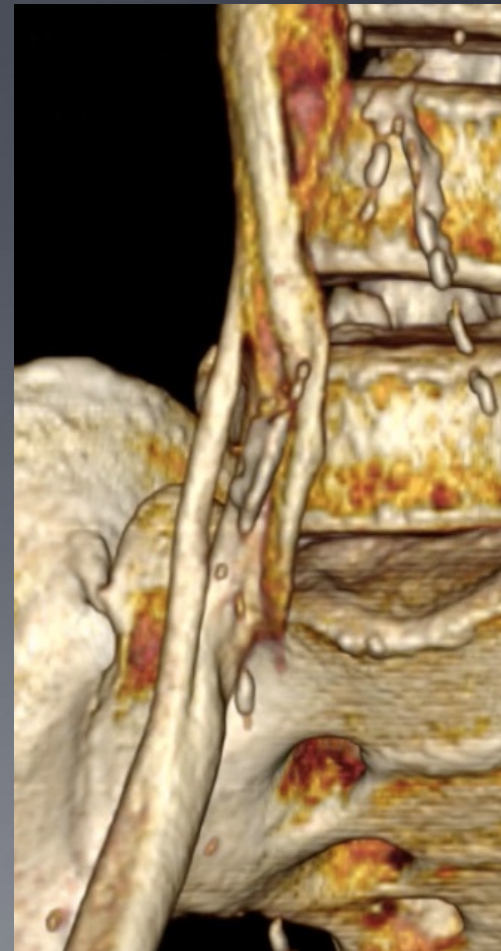


# Case report 2

WL: 324 WW: 383



CTV: synechia +  
stenosis of RCIV



WL: 272 WW: 344

DA

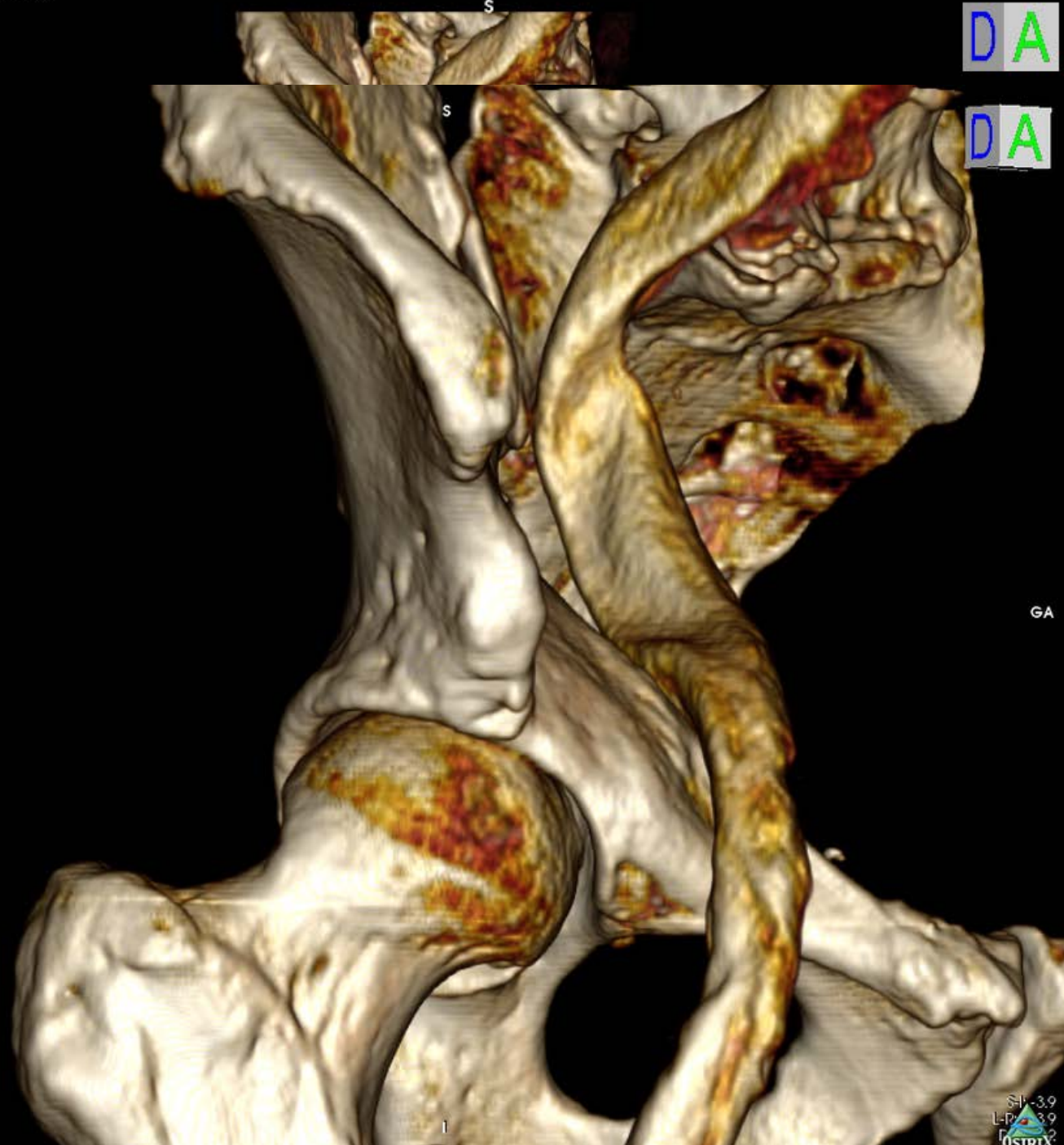
WL: 405 WW: 309

DA

Man of 70 Y no  
Huge leg P  
Below kne



DP



GA

## Case 4: LCIV compression by lumbar arthrosis

Case of post-op edema appeared 6 month  
after a surgery for uterus Cancer  
Compression by a metastatic node ?

The compression shown here is NOT  
a metastatic node  
but the inprint **lombo-sacral disc** on the vein



# Pelvic leak points

most common are P and O points

related to deep vein compression &  
under-investigated

# Case report 5

P point



WL: 200 WW: 161

Compression of IVC by a high RCIA



# Conclusion

It is likely that these deep venous abnormalities, permanent or positional are not so rare.

 Obstructive syndromes are underdiagnosed.



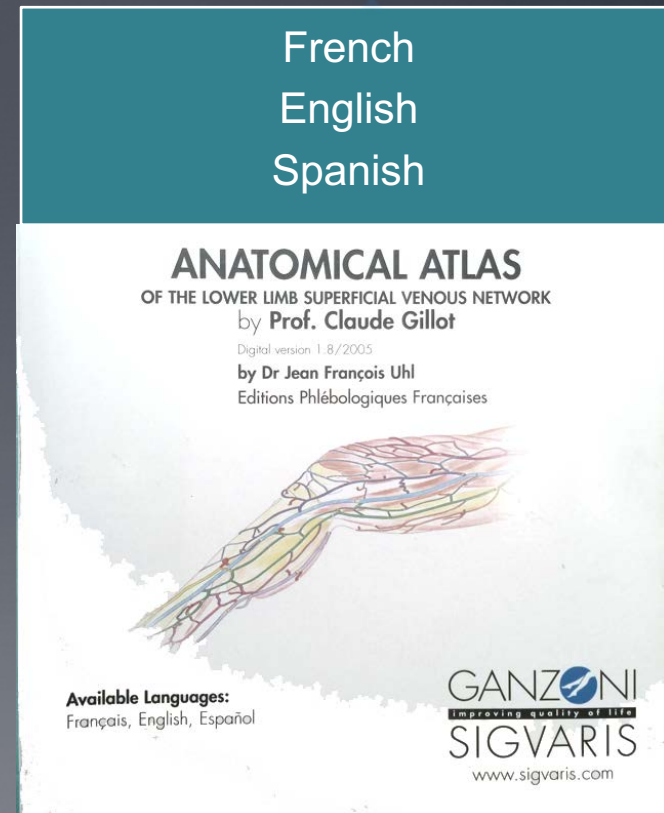
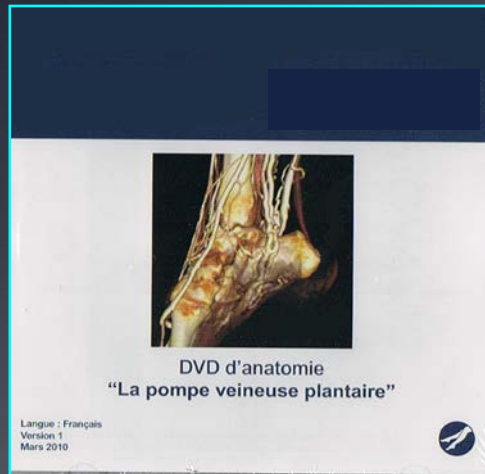
## Conclusion (2)

We have to keep in mind that the so called "primitive CVD" could be secondary to deep venous compression by arteries ...

So, we should more frequently investigate the patients by **CT-Venography** which provides a full 3D depiction of the whole deep system anatomy.

# If you want to have more informations...

DVD of venous anatomy & **ATLAS** of GILLOT ([www.jfuhl.com](http://www.jfuhl.com))



# MULTIMODAL VENOUS IMAGING

## Masterclass ... in Paris



[www.anatomy-masterclass.com](http://www.anatomy-masterclass.com)

Save the date !

7<sup>th</sup>-8<sup>th</sup> July 2018