May-Thurner Syndrome (MTS)

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Unilateral left leg swelling
May Thurner Syndrome

- Virchow 1851 iliofemoral DVT 5X Lt > Rt leg
- McMurrich 1908 described strictures in the common iliac vein
- May and Thurner’s 1957 describe thickening in the left common iliac vein where it was crossed and compressed by the right common iliac artery
Differential diagnosis of unilateral leg swelling

- Deep Vein thrombosis
- Chronic venous insufficiency
- Iliac Compression Syndrome (May-Thurner)
- Foot or leg infection
- Insect bite or sting on the foot or leg
- Injury surgery to the leg
- Clothing etc that constricts the leg
Iliac Compression

- Present in 22% to 33% of the general population
- 25% of patients that underwent emergent CT for abdominal pain had >50% compression of the left common iliac vein
- Clinical manifestation is in 2% to 3% of the general population
- 40% of patients with ileofemoral DVT and May-Thurner (8/20 patients) has positive markers of thrombophilia (lupus anticoagulant, Factor V Leiden, Anticardiolipin Ab, Prothrombin 20210 gene mutation)
- Most with MTS related DVT will also demonstrate anatomic venous abnormality (spurs) and have an increased risk of post phlebetic syndrome

CT-scan: Classic May-Thurner Anatomy

Courtesy: http://radiopaedia.org/articles/may-thurner-syndrome-2
When to suspect significant Iliac Compression?

- Left Ileofemoral DVT
- Unilateral swelling with combined deep and/or superficial venous reflux
- Swelling in the lower legs or ulcerations cannot be explained by the degree of reflux seen in the superficial veins
- If no healing of venous ulcers or significant resolution of symptoms is seen after superficial vein ablation
- If venous claudication particularly with an increase in venous pressure by 3x the normal with exercise compared to the contralateral leg
- Dampened respiratory phasicity at the level of the common femoral vein in the affected leg is seen compared to the contralateral common femoral vein (not sensitive because of large collaterals)

Sanford et al. J Vasc Ultrasound 2011;35:150-152;
IVUS of left Iliac Vein
When compression is significant?

- Unilateral Swelling and discomfort in the leg where compression identified
- IVUS
  - Compression that exceeds 50%
  - Fibrotic changes in the vessel wall “spur”
  - Presence of collaterals
Case: DVT with underlying MTS
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Not always so easy!
Venous Stent Compression
Conclusion

• Iliac compression is common
• DVT with MTS untreated high risk of PTS
• High index of suspicion is needed to diagnose correctly
• Treatment is based on presence of symptoms and stenting seems to be acceptable though often suboptimal
• No data on preventative treatment in asymptomatic patient
• No standardized regimen to anticoagulation at this time
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