Medical Image of the Week: May-Thurner Syndrome

Figure 1. Figure A: Venogram showing extensive thrombosis of the left common iliac vein. Thrombus appearing as filling defects (arrows). Patient is in prone position. Figure B: Venogram after catheter-directed pharmacomechanical thrombectomy and stent placement (2). Inferior vena cava filter in place (1). Patient is in prone position. Figure C: Venogram after catheter-directed pharmacomechanical thrombectomy and stent (arrow) placement showing improved venous flow. Patient is in prone position.

A 20-year-old Caucasian female presented with 7-day history of pain and swelling of the left lower extremity. She had no significant past medical history. Her only medication at the time of presentation was oral contraceptive pills. She denied smoking cigarettes. She denied shortness of breath, recent travel, surgery or miscarriage. She did not have any family history of clotting problems. She was hemodynamically stable. Physical examination was significant for swelling of the left lower extremity up to mid-thigh level. Duplex ultrasonography of the extremity showed extensive thrombosis of the left ilio-femoral, common femoral and popliteal veins. A retrievable inferior vena cava filter was placed. Subsequently, she underwent catheter directed thrombolysis and percutaneous mechanical thrombectomy. Venogram, after the procedure showed resolution of most of the clot burden. It also revealed a band-like stenosis at the location where the right iliac artery is expected to cross the left iliac vein, consistent with May-Thurner syndrome. Endovascular stenting was done. Following the placement of stent venous flow improved significantly. The inferior vena cava filter was removed about a week later. She completed 6 months of anticoagulation with warfarin. Screening for hypercoagulable state, including protein C and S level, antithrombin III level, homocysteine level, anti-phospholipid antibody, factor V Leiden mutation and prothrombin gene mutation was negative.

May-Thurner syndrome is an anatomical variation of the left common iliac vein that increases the risk of deep venous thrombosis of the left lower extremity. It is caused by the compression of the left iliac vein by the right iliac artery against the fifth lumbar vertebra, where it crosses over the vein. Chronic pulsation of the artery against the vein causes vascular thickening. Patients are usually females and commonly present in their second to fourth decades of life. The estimated prevalence is about 22% in the general population. So, it should be suspected when younger females present with extensive, proximal deep venous thrombosis of the left lower extremity. Patients are at increased risk of recurrent thrombosis which can be prevented by correction of the anatomical lesion.

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References

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