Title: Popliteal Vein Compression.... Is it a main cause of DVT ?!
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BACKGROUND
Popliteal vein compression syndrome has been described in the medical literature for some 30 years. Asymptomatic morphologic popliteal vein entrapment is frequently found in the healthy population (27%). Popliteal vein compression on plantar flexion was observed in about 40% of ascending venograms. Only in the last few years has been looked at seriously as a cause for deep vein thrombosis (DVT), pulmonary embolism (PE) and chronic lower limb venous disease.

OBJECTIVE
To examine the pathophysiologic importance of popliteal vein compression in selected patients, suggests a diagnostic tool and describe treatment with surgery.

PATIENTS
Twenty-seven limbs (20 patients) with popliteal vein compression were included. Admitted to Alexandria armed forces hospital from Jan.1st 2016 to June 30th 2017.

METHODS
Clinical examination was described according (CEAP). The body mass index (BMI) was calculated and venous duplex in flexed and extended positions. Ascending Venography in severely compressed veins. Popliteal vein pressure was also measured by means of the introduction of a 2F transducer tip catheter. Severely symptomatic patients with venographic and hemodynamic evidence of Popliteal entrapment were selected to have popliteal vein release. Hemodynamic and clinical Follow up.

RESULTS
Mean age was 34.6, 35.2 years respectively female/male: 12/8
The median BMI was 27 (range, 22 -30)

Duplex of Popliteal Vein

Upon knee flexion, pressure was 10.0 [range, 4-20]and upon knee extension, the median PCP in the PVCS group was 53 cm H$_2$O (range, 38-76 cm H$_2$O)

Sclerotic vein segment (arrow) at the compression point

The popliteal vein l diameter was 9.4 mm (range, 8.0-20.0 mm) upon knee flexion, compared with 0 mm (range, 0.0-0.1 mm) upon knee extension

CONCLUSION
PVCS is associated with high popliteal compartment pressures. The pathophysiology of popliteal obstruction, in the absence of anatomical abnormalities, is related to an increase in popliteal compartment pressure while standing due an increase of the popliteal fat pad, related to high BMI. And this may increase the possibility of venous thrombosis.