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Appropriate Patient Selection For Vein Stenting

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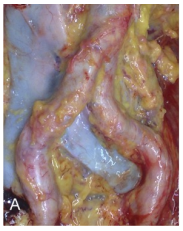
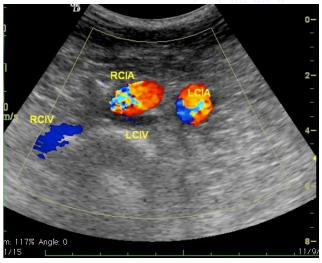
Nothing To Disclose

Iliac Vein Compression

May-Thurner Syndrome, NIVL



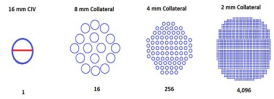


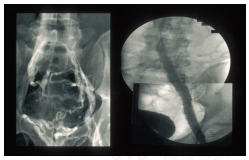
To much attention on Poiseuelle

Conductance ≈ 4th Power of Radius

$F = (\pi/8) \times (L/\pi) \times (r^4/L)$

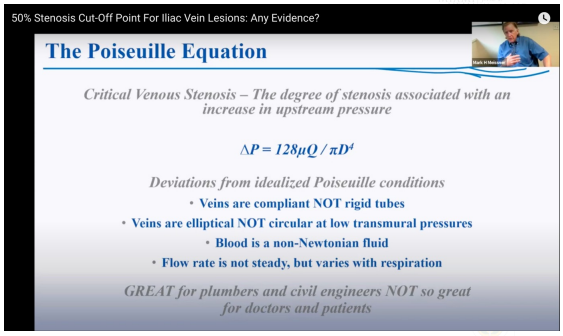
50% ?





Vessel Segment	Diameter	Area
CIV	16 mm	200 mm²
EIV	14 mm	150 mm²
CFV	12 mm	110 mm²

Raju S, et al. JVSVL 2017 Nov;5(6):864-874



IVC Community Podcast

CEAP CLASSIFICATION SYSTEM

CVD CVI

From the Midwestern Vascular Surgical Society

Iliac vein compression in an asymptomatic patient population

Melina R. Kibbe, MD, Michael Ujiki, MD, A. Lee Goodwin, RT(R)(CT), Mark Eskandari, MD, James Yao, MD, and Jon Matsumura, MD, *Chicago, Ill*

Objective: May-Thurner syndrome is a well-recognized anatomic variant that is associated with the development of symptomatic acute venous thrombosis of the left iliac vein. However, the natural frequency of compression of the left iliac vein and its clinical significance in asymptomatic disease has not been established. Therefore the purpose of this descriptive anatomic study was to determine the incidence of left common iliac vein compression in an asymptomatic population.

Methods: A retrospective analysis of medical records and helical abdominal computed tomography scans was conducted in 50 consecutive patients evaluated in the emergency department because of abdominal pain. Medical records were reviewed for symptoms and risk factors for deep venous thrombosis, and data were collected and reported according to the Joint Society Reporting Standards for acute lower extremity venous thrombosis. All computed tomography was performed with intravenous contrast medium, and 2-mm to 5-mm axial images were obtained. The minor diameter of the common iliac arteries and veins was measured. The technique of transverse image measurement was validated with multiplanar reconstructions and orthogonal diameter measurements in a subset of subjects. Statistical analysis was performed with the Student *t* test or Spearman rank correlation.

Results: Mean age of subjects without symptoms was 40 years (range, 19-85 years), and 60% (n = 30) were female patients. The mean acute lower extremity venous thrombosis risk factor score was 1.16 ± 0.23 (range, 0-6; maximum possible score, 28). It was surprising that 24% (n = 12) of patients had greater than 50% compression and 66% (n = 33) had greater than 25% compression. Mean compression of the left common iliac vein was 35.8% (range, −8.6%-74.8%). The structure most often compressing the left common iliac vein against the vertebral body was the right common iliac artery (84%). There was no strong correlation between patient age or common iliac artery size and compression of the left common iliac vein. However, women had greater mean compression of the left common iliac vein (women, 41.2% ± 3.1%; men, 27.0% ± 3.0%; $P = .003$).

Conclusion: Hemodynamically significant left common iliac vein compression is a frequent anatomic variant in asymptomatic individuals. Therefore compression of the left iliac vein may represent a normal anatomic pattern that has thus far been thought of as a pathologic condition. (J Vasc Surg 2004;39:937-43.)

¼ >50%
2/3 >25%

ARTICLE HIGHLIGHTS

- **Type of Research:** Retrospective cohort study
- **Take Home Message:** In 510 patients, 278 with left-sided lower extremity deep venous thrombosis (DVT), left iliac vein (LIV) compression was associated with left iliac DVT (odds ratio, 1.88; 95% confidence interval, 1.64-2.15; $P < .01$) but not with infrainguinal DVT (odds ratio, 0.89; 95% confidence interval, 0.76-1.03; $P = .126$). Mean compression of the LIV in left iliac DVT patients was higher than in non-DVT patients (74.64% ± 0.99% vs 53.42% ± 1.49%; $P = .01$), whereas mean percentage compression of the LIV in infrainguinal DVT patients (45.37% ± 2.71%) was less than in the non-DVT patients ($P < .01$).
- **Recommendation:** Iliofemoral DVT is most likely a result of infrainguinal DVT extension in the presence of LIV stenosis, but LIV stenosis itself is not associated with infrainguinal DVT. Treatment of LIV stenosis to prevent infrainguinal DVT is not recommended.

Check for updates

Hua Tang, MD,[a] *and*

ion had similar correlation
inal DVT (without iliac vein

es was conducted of 278
ntrol patients without DVT
VT were investigated using

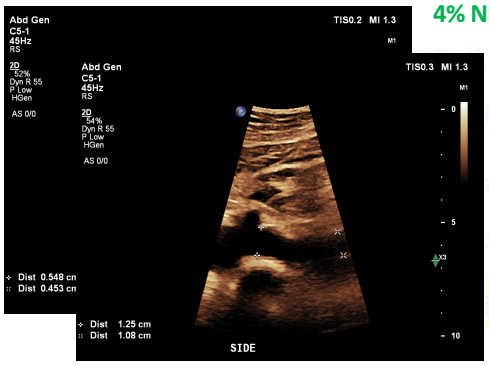
as significantly higher than
LIV in left infrainguinal DVT
< .01). LIV compression was
2.15, $P < .01$) for each 10%
ed with increased odds of

al DVT patients did. LIV
te with the presence of

J Vasc Surg: Venous and Lym Dis 2018;6:689-95

Is this NIVL real?

We stent 4% NIVLs



PTS

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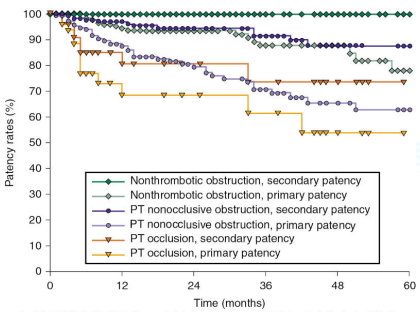
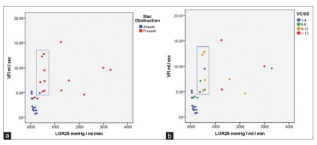
Stent Patency



Neglén P. J Vasc Surg. 2007;46(5):979-990

Noninvasive measurement of lower limb outflow resistance and implications for stenting

A. Nicolaides, O. Maleti[1], M. Lugli[1], S. Guerzoni[1]



Lifelong AC required in most stented PTS cases

CONCLUSION: The noninvasive measurement of LOR_{25} provides a quantitative estimation of overall lower LOR. It can indicate which limbs are compensated by the development of a good collateral circulation and which are not. The combination of LOR_{25} with VFI enables the clinician to determine the relative contribution of reflux and obstruction in individual limbs. A low LOR_{25} in the presence of severe iliac stenosis or occlusion is an indication of a well-developed collateral circulation and suggests that stenting would provide little benefit if any. However, this hypothesis needs to be verified by future prospective studies.

Nicolaides A, Vasc Invest Ther 2019;2:88-94

Jalaie H, AVF 2022

Classification

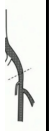
Check for updates

Interventional treatment for post-thrombotic chronic venous obstruction: Progress and challenges

Mohammad E. Barbati, MD,[a] Efthymios D. Avgerinos, MD,[b] Domenico Baccellieri, MD,[c] Suat Doganci, MD,[d] Michael Lichtenberg, MD,[e] and Houman Jalaie, MD,[a] *Aachen, Germany; Athens, Greece, Milan, Italy; Ankara, Turkey; and Arnsberg, Germany*

ABSTRACT

Chronic venous obstruction, including nonthrombotic iliac vein lesions and post-thrombotic syndrome, presents a significant burden on patients' quality of life and health care systems. Venous recanalization and stenting have emerged as promising minimally invasive approaches, yet challenges in patient selection, procedural techniques, and long-term outcomes persist. This review synthesizes current knowledge on the interventional treatment of post-thrombotic syndrome, focusing on the evolution of endovascular techniques and stenting. Patient selection criteria, procedural details, and the characteristics of dedicated venous stents are discussed. Particular emphasis is given to the role of inflow and other anatomical considerations, along with postoperative management protocols for an optimal long-term outcome. (J Vasc Surg Venous Lymphat Disord 2024;12:101910.)



V

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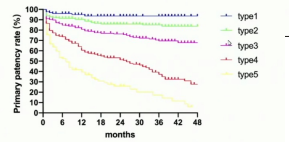
rvative)

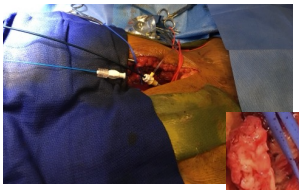


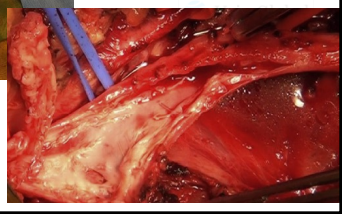
2) Endovascular + Stenting into the DFV/ cranial to DFV

2) Endovascular + Stenting into the FV / cranial to DFV

2) Endovascular + Recanalization of the FV down to PV

Hybrid –
Open Endovenectomy Femoral
Endovenous Iliac Stent





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1. Until we get better studies, stenting should be symptom driven

2. Imaging aids diagnosis and procedure planning

THANK YOU !

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