

EVIDENCE BASED STATEMENT

DOMAIN **04**, Statement **03**

TOPIC: “Iliac vein stenosis proper management”

SEARCH TERMS & SOURCES

(iliac vein) AND (stenosis)

INCLUSION CRITERIA

- Reviews
- Publication < 10 years
- only ENG

SEARCH RESULT BEFORE - AFTER SELECTION

29/16

PERTINENT LITERATURE NOT IDENTIFIED BY THE LITERATURE SEARCH

1. De Maeseneer MG, Kakkos SK, Aherne T, et al. European Society for Vascular Surgery (ESVS) 2022 Clinical Practice Guidelines on the Management of Chronic Venous Disease of the Lower Limbs. Eur J Vasc Endovasc Surg. 2022 Feb;63(2):184-267.
2. Kurstjens RL, Catarinella FS, Lam YL, et al. The inability of venous occlusion air plethysmography to identify patients who will benefit from stenting of deep venous obstruction. Phlebology 2018;33:483-91.
3. Gagne PJ, Gasparis A, Black S, et al. Analysis of threshold stenosis by multiplanar venogram; intravascular ultrasound examination for predicting clinical improvement after iliofemoral vein stenting in VIDIO trial. J Vasc Surg. 2018;6(1):48–66.e1

EVIDENCE BASED STATEMENT

Domain 4; Statement 3

IDENTIFIED REFERENCES

1. Harris M, Lim CS. Chronic venous outflow obstruction: An important cause of chronic venous disease. *Cleve Clin J Med*. 2021 Dec 2;88(12):680-688.
2. Saleem T, Raju S. An overview of in-stent restenosis in iliofemoral venous stents. *J Vasc Surg Venous Lymphat Disord*. 2022 Mar;10(2):492-503.e2.
3. Rossi FH, Rodrigues TO, Izukawa NM, Kambara AM. Best practices in diagnosis and treatment of chronic iliac vein obstruction. *J Vasc Bras*. 2020 Sep 14;19:e20190134.
4. Kutsenko O, McColgan Y, Salazar G. Iliac Vein Stenosis: Is the Data Strong Enough for Stenting in the Young Pelvic Venous Disorders (PeVD) Population? *Tech Vasc Interv Radiol*. 2021 Mar;24(1):100733.
5. Saleem T, Raju S. Comparison of intravascular ultrasound and multidimensional contrast imaging modalities for characterization of chronic occlusive iliofemoral venous disease: A systematic review. *J Vasc Surg Venous Lymphat Disord*. 2021 Nov;9(6):1545-1556.e2.
6. Badesha AS, Bains PRS, Bains BRS, Khan T. A systematic review and meta-analysis of the treatment of obstructive chronic deep venous disease using dedicated venous stents. *J Vasc Surg Venous Lymphat Disord*. 2022 Jan;10(1):267-282.e4.
7. Hansrani V, Moughal S, Elmetwally A, Al-Khaffaf H. A review into the management of May-Thurner syndrome in adolescents. *J Vasc Surg Venous Lymphat Disord*. 2020 Nov;8(6):1104-1110.
8. Toh MR, Tang TY, Lim HHMN, et al. Review of imaging and endovascular intervention of ilio caval venous compression syndrome. *World J Radiol*. 2020 Mar 28;12(3):18-28.
9. Morris RI, Sobotka PA, Balmforth PK, et al. Iliocaval Venous Obstruction, Cardiac Preload Reserve and Exercise Limitation. *J Cardiovasc Transl Res*. 2020 Aug;13(4):531-539.
10. White JM, Comerota AJ. Venous Compression Syndromes. *Vasc Endovascular Surg*. 2017 Apr;51(3):155-168. doi: 10.1177/1538574417697208. PMID: 28330436.
11. Kurstjens R, de Wolf M, Kleijnen J, et al. The predictive value of haemodynamic parameters for outcome of deep venous reconstructions in patients with chronic deep vein obstruction - A systematic review. *Phlebology*. 2017 Sep;32(8):532-542.
12. Seager MJ, Busuttill A, Dharmarajah B, et al. A Systematic Review of Endovenous Stenting in Chronic Venous Disease Secondary to Iliac Vein Obstruction. *Eur J Vasc Endovasc Surg*. 2016 Jan;51(1):100-20.
13. Razavi MK, Jaff MR, Miller LE. Safety and Effectiveness of Stent Placement for Iliofemoral Venous Outflow Obstruction: Systematic Review and Meta-Analysis. *Circ Cardiovasc Interv*. 2015 Oct;8(10):e002772.
14. Raju S. Treatment of iliac-caval outflow obstruction. *Semin Vasc Surg*. 2015 Mar;28(1):47-53.
15. Birn J, Vedantham S. May-Thurner syndrome and other obstructive iliac vein lesions: meaning, myth, and mystery. *Vasc Med*. 2015 Feb;20(1):74-83.
16. Raju S. Best management options for chronic iliac vein stenosis and occlusion. *J Vasc Surg*. 2013 Apr;57(4):1163-9.

EVIDENCE BASED STATEMENT

Domain 4; Statement 3

TEXT FOR INCLUSION IN THE DOCUMENT

DOMAIN 04, Statement 03, TOPIC: “Iliac vein stenosis proper management”

Iliac vein tract is the principal route of venous drainage from the lower limbs. Yet, a globally accepted definition of “hemodynamically significant iliac vein stenosis” is still missing and investigations focused on direct pressure measurements remain inconclusive. Up to 66% of the general population may have an asymptomatic non-thrombotic iliac vein lesion, therefore proper indication to treatment is of paramount importance to avoid under/over treatment. Asymptomatic patients without severe signs of venous hypertension should not be treated invasively.

Only cases showing a life-affecting condition should be addressed to the stenosis dilation and eventual stenting.

***[Rossi FH, Rodrigues TO, Izukawa NM, Kambara AM. Best practices in diagnosis and treatment of chronic iliac vein obstruction. J Vasc Bras. 2020 Sep 14;19:e20190134].**

A detailed diagnostic work up should be performed by dedicated centers, including clinical evaluation, duplex ultrasonography, computed tomography and/or magnetic resonance venography. Intraoperatively use of intravascular ultrasound (IVUS) demonstrated superiority in relation to venography. IVUS determines the degree of stenosis detecting the presence and characteristics of intraluminal obstructions, of the wall and of eventual residual thrombus fragments. It also determine the segment to position the stent at best, based also on the inflow and outflow. Venography demonstrated to underestimated the obstruction degree in approximately 30% of cases, failing to identify greater than 50% stenosis in 25% of patients.

[Gagne PJ, Gasparis A, Black S, et al. Analysis of threshold stenosis by multiplanar venogram; intravascular ultrasound examination for predicting clinical improvement after iliofemoral vein stenting in VIDIO trial. J Vasc Surg. 2018;6(1):48–66.e1]

Venous occlusion plethysmography have been proposed as a possible tool for quantifying the iliac stenosis impact and the possible stenting benefit, but preliminary data are not supporting its use.

[Kurstjens RL, Catarinella FS, Lam YL, et al. The inability of venous occlusion air plethysmography to identify patients who will benefit from stenting of deep venous obstruction. Phlebology 2018;33:483-91].

Once the indication to treatment is given, the main option is endovenous by angioplasty and eventual stenting. Significant data are missing in the head to head comparison between angioplasty and stenting, but angioplasty alone is usually not considered sufficient to overcome the elastic recoil of the stenosis. Open surgery procedures did not show outcomes leading to high recommendation grades in the guidelines and must be performed, if and whenever necessary, only in highly specialized centers, taking into consideration that up to 40% complication rate has been reported.

Conservative management by graduated compression and adapted physical exercise should always be taken into consideration. Whatever treatment strategy is indicated, close follow-up is part of the management plan.

[De Maeseneer MG, Kakkos SK, Aherne T, et al. European Society for Vascular Surgery (ESVS) 2022 Clinical Practice Guidelines on the Management of Chronic Venous Disease of the Lower Limbs. Eur J Vasc Endovasc Surg. 2022 Feb;63(2):184-267].

EVIDENCE BASED STATEMENT

Domain 4; Statement 3

STATEMENT FOR PUBLIC EVIDENCE-BASED AWARENESS

DOMAIN 04, Statement 03

“A narrowing of the iliac vein is present in more than 50% of the population: a caliber reduction alone is not an indication to treatment per se. Only specialized centers should treat iliac vein stenosis and only after careful evaluation of the risk and benefit ”

SELECTED REFERENCES

1. *Rossi FH, Rodrigues TO, Izukawa NM, Kambara AM. Best practices in diagnosis and treatment of chronic iliac vein obstruction. *J Vasc Bras.* 2020 Sep 14;19:e20190134
2. Gagne PJ, Gasparis A, Black S, et al. Analysis of threshold stenosis by multiplanar venogram; intravascular ultrasound examination for predicting clinical improvement after iliofemoral vein stenting in VIDIO trial. *J Vasc Surg.* 2018;6(1):48–66.e1
3. Kurstjens RL, Catarinella FS, Lam YL, et al. The inability of venous occlusion air plethysmography to identify patients who will benefit from stenting of deep venous obstruction. *Phlebology* 2018;33:483-91
4. De Maeseneer MG, Kakkos SK, Aherne T, et al. European Society for Vascular Surgery (ESVS) 2022 Clinical Practice Guidelines on the Management of Chronic Venous Disease of the Lower Limbs. *Eur J Vasc Endovasc Surg.* 2022 Feb;63(2):184-267

identified LITERATURE BIAS

Lack of homogeneous stenosis definition.
Lack of objective outcome measures to compare the results

SUGGESTED NEXT LINES OF RESEARCH

1. Chronic venous obstruction management in obese patients before severe BMI reduction attempt
2. Head to head appropriate conservative versus invasive chronic venous obstruction management