

EVIDENCE BASED STATEMENT

DOMAIN **05**, Statement **07**

TOPIC: “**Pelvic venous disorders treatment**”

SEARCH TERMS & SOURCES

(treatment) AND ((pelvic venous disorder) OR (pelvic congestion syndrome))

INCLUSION CRITERIA

- English language
- Reviews, Meta-analysis
- Publication < 10 years, only ENG

SEARCH RESULT BEFORE - AFTER SELECTION

121/19

PERTINENT LITERATURE NOT IDENTIFIED BY THE LITERATURE SEARCH

1. Tiralongo F, Distefano G, Palermo M, et al.. Liquid and solid embolic agents in gonadal veins. *JCM*. 2021;10(8):1596.
2. Bendek B, Afuape N, Banks E, et al.. Comprehensive review of pelvic congestion syndrome: causes, symptoms, treatment options. *Curr Opin Obstet Gynecol*. 2020;32(4):237–242
3. De Almeida GR, Silvinato A, Simões RS, et al.. Pelvic congestion syndrome – treatment with pelvic varicose veins embolization. *Rev Assoc Med Bras*. 2019;65(4):518–523
4. Avgerinos ED, Saadeddin Z, Humar R, et al.. Outcomes of left renal vein stenting in patients with nutcracker syndrome. *Proc J Vasc Surg Venous Lymphat Disord*. 2019;7:853–859.
5. Liu J, Han L, Han X.. The effect of a subsequent pregnancy after ovarian vein embolization in patients with infertility caused by pelvic congestion syndrome. *Acad. Radiol*. 2019;26(10):1373–1377

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IDENTIFIED REFERENCES

1. Barge TF, Uberoi R. Symptomatic pelvic venous insufficiency: a review of the current controversies in pathophysiology, diagnosis, and management. *Clin Radiol*. 2022 Jun;77(6):409-417.
2. Cosín Sales O. Ultrasound-guided interventional radiology procedures on veins. *Radiologia (Engl Ed)*. 2022 Jan-Feb;64(1):89-99.
3. Bałabuszek K, Toborek M, Pietura R. Comprehensive overview of the venous disorder known as pelvic congestion syndrome. *Ann Med*. 2022 Dec;54(1):22-36.
4. Leonardi M, Armour M, Gibbons T, et al. Surgical interventions for the management of chronic pelvic pain in women. *Cochrane Database Syst Rev*. 2021 Dec 20;12(12):CD008212.
5. Kolber MK, Cui Z, Chen CK, et al. Nutcracker syndrome: diagnosis and therapy. *Cardiovasc Diagn Ther*. 2021 Oct;11(5):1140-1149.
6. Sutanto SA, Tan M, Onida S, et al. A systematic review on isolated coil embolization for pelvic venous reflux. *J Vasc Surg Venous Lymphat Disord*. 2022 Jan;10(1):224-232.e9.
7. 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.
8. Joh M, Grewal S, Gupta R. Ovarian Vein Embolization: How and When Should It Be Done? *Tech Vasc Interv Radiol*. 2021 Mar;24(1):100732.
9. Ahuja RS, Garg T, Sudheendra D. Management of Patients when Superficial Venous Disease Arises from Pelvic Escape Points. *Semin Intervent Radiol*. 2021 Jun;38(2):226-232.
10. Tanaka ME, Kutsenko O, Salazar G. Choosing the Most Appropriate Treatment Option for Pelvic Venous Disease: Stenting versus Embolization. *Semin Intervent Radiol*. 2021 Jun;38(2):182-188.
11. Joh M, Desai KR. Treatment of Nonthrombotic Iliac Vein Lesions. *Semin Intervent Radiol*. 2021 Jun;38(2):155-159.
12. Tiralongo F, Distefano G, Palermo M, et al. Liquid and Solid Embolic Agents in Gonadal Veins. *J Clin Med*. 2021 Apr 9;10(8):1596.
13. Basile A, Failla G, Gozzo C. Pelvic Congestion Syndrome. *Semin Ultrasound CT MR*. 2021 Feb;42(1):3-12.
14. Aldhafery BF. What family physicians should know about interventional Radiology? *J Family Community Med*. 2020 May-Aug;27(2):85-90.
15. Bendek B, Afuape N, Banks E, et al. Comprehensive review of pelvic congestion syndrome: causes, symptoms, treatment options. *Curr Opin Obstet Gynecol*. 2020 Aug;32(4):237-242.
16. Gavrillov SG, Efremova OI. Surgical aspects of venous pelvic pain treatment. *Curr Med Res Opin*. 2019 Nov;35(11):1983-1989.
17. Almeida GR, Silvinato A, Simões RS, et al. Pelvic congestion syndrome - treatment with pelvic varicose veins embolization. *Rev Assoc Med Bras (1992)*. 2019 May 2;65(4):518-523.
18. Brown CL, Rizer M, Alexander R, et al. Pelvic Congestion Syndrome: Systematic Review of Treatment Success. *Semin Intervent Radiol*. 2018 Mar;35(1):35-40.
19. Gavrillov SG, Turischeva OO. Conservative treatment of pelvic congestion syndrome: indications and opportunities. *Curr Med Res Opin*. 2017 Jun;33(6):1099-1103.

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TEXT FOR INCLUSION IN THE DOCUMENT

DOMAIN 05, Statement 07, TOPIC: “**Pelvic venous disorders treatment**”

Pelvic venous disorder indication to treatment requires an accurate evaluation of each single specific case, in order to avoid under or overtreatment. Conservative measure have been reported in the form of proper life habits, venous active drugs (micronized purified flavonoid fraction) and graduated compression. Yet, long term data are missing, therefore making this topic worthy to be further investigated. No stable significant results have been reported by hormonal therapy.

Surgical approaches for pelvic vein ablation demonstrated to be not competitive against endovascular strategies, yet specific treatment protocols have not been validated at a global level up to the knowledge of the authors. Indeed, technical and strategical notes on the procedure varies quite significantly in the literature, not demonstrating a clear advantage of one over the other, including for the comparison among embolic agents such as sclerosants, coils and plugs.

[Tiralongo F, Distefano G, Palermo M, et al.. Liquid and solid embolic agents in gonadal veins. *JCM*. 2021;10(8):1596].

Also the post-procedural clinical improvement has been reported heterogeneously, ranging from 47 to 100% of cases.

[De Almeida GR, Silvinato A, Simões RS, et al.. Pelvic congestion syndrome – treatment with pelvic varicose veins embolization. *Rev Assoc Med Bras*. 2019;65(4):518–523]

Preliminary data suggest successful treatment can decrease infertility, nevertheless very few cases have been investigated and more research is needed.

[Liu J, Han L, Han X.. The effect of a subsequent pregnancy after ovarian vein embolization in patients with infertility caused by pelvic congestion syndrome. *Acad. Radiol*. 2019;26(10):1373–1377]

In case of hemodynamically and clinically significant iliac vein stenosis coexistence, removal of the obstruction is suggested together with embolization of the refluxing pelvic veins, otherwise the risk of clinical insuccess is higher than 80%.

[Gavrilov SG, Vasilyev AV, Krasavin GV, et al.. Endovascular interventions in the treatment of pelvic congestion syndrome caused by May-Thurner syndrome. *J Vasc Surg Venous Lymphat Disord*. 2020;8(6):1049–1057]

Left renal vein stenting in the context of nutcracker syndrome and pelvic venous disorders has demonstrated some preliminary benefit, but the published data are sparse and weak: considering the procedural risk, an extremely careful evaluation should be performed before giving this indication.

[Avgerinos ED, Saadeddin Z, Humar R, et al.. Outcomes of left renal vein stenting in patients with nutcracker syndrome. *Proc J Vasc Surg Venous Lymphat Disord*. 2019;7:853–859].

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STATEMENT FOR PUBLIC EVIDENCE-BASED AWARENESS

DOMAIN 05, Statement 07

“Indication to treatment must be preceded by a venography performed in a high expertise medical center and can not be based just on venous dilation finding.”

SELECTED REFERENCES

1. Tiralongo F, Distefano G, Palermo M, et al.. Liquid and solid embolic agents in gonadal veins. *JCM*. 2021;10(8):1596
2. De Almeida GR, Silvinato A, Simões RS, et al.. Pelvic congestion syndrome – treatment with pelvic varicose veins embolization. *Rev Assoc Med Bras*. 2019;65(4):518–523
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4. Gavrilov SG, Vasilyev AV, Krasavin GV, et al.. Endovascular interventions in the treatment of pelvic congestion syndrome caused by May-Thurner syndrome. *J Vasc Surg Venous Lymphat Disord*. 2020;8(6):1049–1057
5. Avgerinos ED, Saadeddin Z, Humar R, et al.. Outcomes of left renal vein stenting in patients with nutcracker syndrome. *Proc J Vasc Surg Venous Lymphat Disord*. 2019;7:853–859
6. Bałabuszek K, Toborek M, Pietura R. Comprehensive overview of the venous disorder known as pelvic congestion syndrome. *Ann Med*. 2022;54(1):22-36. doi:10.1080/07853890.2021.2014556
7. Guerrero A, Theophanous R.. A case report of a migrated pelvic coil causing pulmonary infarct in an adult female. *Clin Pract Cases Emerg Med*. 2020;4(3):436–439

identified LITERATURE BIAS

Lack of objective outcome measure to assess homogeneity in the study populaitons

SUGGESTED NEXT LINES OF RESEARCH

Head to head comparison among the different treatment protocols