

EVIDENCE BASED STATEMENT

DOMAIN **04**, Statement **06**

TOPIC: “Popliteal vein aneurysm management”

SEARCH TERMS & SOURCES

(popliteal vein) AND (aneurysm)

INCLUSION CRITERIA

- Reviews
- Publication < 10 years, only ENG

SEARCH RESULT BEFORE - AFTER SELECTION

31/07

PERTINENT LITERATURE NOT IDENTIFIED BY THE LITERATURE SEARCH

1. Norimatsu T, Aramoto H. Surgical repair for popliteal venous aneurysm causing severe or recurrent pulmonary thromboembolism: three case reports. *Ann Vasc Dis* 2015;8:56-8.
2. Lutz HJ, Sacuiu RD, Savolainen H. Surgical therapy of an asymptomatic primary popliteal venous aneurysm. *Ann Vasc Surg*. 2012;26(5):729.e7-9
3. van der Voort EA, De Maeseneer MG. A giant aneurysm of the popliteal vein. *Vasa*. 2012;41(3):229-32.

EVIDENCE BASED STATEMENT

Domain 4; Statement 6

IDENTIFIED REFERENCES

1. Gaudry M, Al-Osail EM, Barral PA, et al. Pulmonary embolism secondary to popliteal vein aneurysm: case report and literature review. *Future Cardiol.* 2022 Apr;18(4):309-314.
2. Jolobe O. Wide-ranging clinical spectrum of paradoxical embolism. *Postgrad Med J.* 2021 doi:10.1136/postgradmedj-2020-139691.
3. Teter KA, Maldonado TM, Adelman MA. A systematic review of venous aneurysms by anatomic location. *J Vasc Surg Venous Lymphat Disord.* 2018 May;6(3):408-413.
4. Zybulewski A, Shukla PA, Swintelski C, Kagen A. Rare Popliteal Venous Aneurysm: A Case Report and Review of the Literature. *Vasc Endovascular Surg.* 2017 Oct;51(7):491-492.
5. Dagur G, Gandhi J, Smith N, et al. Anatomical Approach to Clinical Problems of Popliteal Fossa. *Curr Rheumatol Rev.* 2017;13(2):126-138.
6. Maldonado-Fernandez N, Lopez-Espada C, Martinez-Gamez FJ, et al. Popliteal venous aneurysms: results of surgical treatment. *Ann Vasc Surg.* 2013 May;27(4):501-9.
7. Lutz HJ, Sacuiu RD, Savolainen H. Surgical therapy of an asymptomatic primary popliteal venous aneurysm. *Ann Vasc Surg.* 2012 Jul;26(5):729.e7-9.

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TEXT FOR INCLUSION IN THE DOCUMENT

DOMAIN 04, Statement 06, TOPIC: “Popliteal vein aneurysm management”

A not univocal definition of popliteal vein aneurysm is present in the literature according to our search. Generally, it is indicated as a persistent isolated vein dilation starting from 1.5 times the normal diameter.

Popliteal vein aneurysm is the most common vein dilation of the lower extremity deep venous system and it generally manifests itself by pain, palpable mass, venous hypertension signs and symptoms, thrombo-embolic complications and rupture.

Surgery remains the treatment of choice whenever symptomatic. If asymptomatic but saccular, the surgical indication persists because of the thrombo-embolic potential risk. If fusiform, larger than 2 cm aneurysm must be taken into consideration for intervention.

Up to our knowledge, no significant large studies confirmed the cut-off diameter for indication to treatment.

The most used technical option is tangential aneurismectomy with lateral venorrhaphy.

Other possible technical solutions are resection with end-to-end anastomosis or resection with vein/PTFE interposition. No endovascular options have been documented properly up to our search. Ultimately, the technical choice must follow the single case evaluation.

[Teter KA, Maldonado TM, Adelman MA. A systematic review of venous aneurysms by anatomic location. J Vasc Surg Venous Lymphat Disord. 2018 May;6(3):408-413].

A debate remains open in the scientific community regarding the eventual need of inferior vena cava filter temporary insertion in case of ilio-femoral venous thrombosis and if the patient is not fit for surgery or systemic anticoagulation.

[Maldonado-Fernandez N, Lopez-Espada C, Martinez- Gamez FL, Galan-Zafra M, Sanchez-Maestrae ML, Herrero- Martinez E, et al. Popliteal venous aneurysms: results of surgical treatment. Ann Vasc Surg 2013;27:501-9].

Globally validated anticoagulation protocols are missing and must be tailored to the single case. Peri-procedural anticoagulation for up to 12 months followed by low dose aspirin, graduated and intermittent compression use have been proposed, but proper evidence-based validation is needed on the topic

***[Gaudry M, Al-Osail EM, Barral PA, et al. Pulmonary embolism secondary to popliteal vein aneurysm: case report and literature review. Future Cardiol. 2022 Apr;18(4):309-314].**

Further data collection is needed before providing high recommendation on this condition management: considering up to 50% of popliteal vein aneurysm have been associated with thrombo-embolic complications, the identification of proper treatment strategy has priority.

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STATEMENT FOR PUBLIC EVIDENCE-BASED AWARENESS

DOMAIN 04, Statement 06

“Popliteal vein dilation must be carefully evaluated by a specialist for surgical treatment or lifelong anticoagulation.”

SELECTED REFERENCES

1. Teter KA, Maldonado TM, Adelman MA. A systematic review of venous aneurysms by anatomic location. J Vasc Surg Venous Lymphat Disord. 2018 May;6(3):408-413
2. Maldonado-Fernandez N, Lopez-Espada C, Martinez- Gamez FL, Galan-Zafra M, Sanchez-Maestrae ML, Herrero- Martinez E, et al. Popliteal venous aneurysms: results of surgical treatment. Ann Vasc Surg 2013;27:501-9
3. Gaudry M, Al-Osail EM, Barral PA, et al. Pulmonary embolism secondary to popliteal vein aneurysm: case report and literature review. Future Cardiol. 2022 Apr;18(4):309-314

identified LITERATURE BIAS

- Not more than 300 cases reported in the literature up to our search

SUGGESTED NEXT LINES OF RESEARCH

Popliteal vein aneurysm thromboprophylaxis regimen