

EVIDENCE BASED STATEMENT

DOMAIN **01**, Statement **06**

TOPIC: “venous thromboembolism as leading cause of preventable death”

SEARCH TERMS & SOURCES

Query used for the literature search / Search engines used (PubMed, Embase, Cinhal and the Cochrane)
((varicose vein[MeSH Terms]) OR (lymphedema[MeSH Terms])) AND (prevalence[MeSH Terms])

INCLUSION CRITERIA

- Lower limb only
- Reviews
- Publication < 10 years, only ENG

SEARCH RESULT BEFORE - AFTER SELECTION

68 (before) - 10 (after selection)

PERTINENT LITERATURE NOT IDENTIFIED BY THE LITERATURE SEARCH

1. Barco S, Mahmoudpour SH, Valerio L, et al. Trends in mortality related to pulmonary embolism in the European Region, 2000–15: analysis of vital registration data from the WHO Mortality Database. *Lancet Resp Med* 2020;8(3): 277-287.
2. Monreal M, Agnelli G, Chuang LH, et al. Deep Vein Thrombosis in Europe-Health-Related Quality of Life and Mortality. *Clin Appl Thromb Hemost*. 2019 Jan-Dec;25:1076029619883946.
3. The Lancet Haematology. Thromboembolism: an under appreciated cause of death. *Lancet Haematol*. 2015 Oct;2(10):e393.
4. Gabbai-Armelin PR, de Oliveira AB, Ferrisse TM, et al. COVID-19 (SARS-CoV-2) infection and thrombotic conditions: A systematic review and meta-analysis. *Eur J Clin Invest*. 2021 Jun;51(6):e13559.
5. Yoo HHB. Thrombolysis in Pulmonary Embolism: Octogenarians Deserve More Attention! *Arq Bras Cardiol*. 2022 Jan;118(1):75-76.

EVIDENCE BASED STATEMENT

Domain 1; Statement 6

IDENTIFIED REFERENCES

- 1: Pruszczyk P, Skowrońska M, Cieurzyński M, et al. Assessment of pulmonary embolism severity and the risk of early death. *Pol Arch Intern Med.* 2021 Dec 22;131(12):16134.
- 2: Chopard R, Albertsen IE, Piazza G. Diagnosis and Treatment of Lower Extremity Venous Thromboembolism: A Review. *JAMA.* 2020 Nov 3;324(17):1765-1776.
- 3: Gómez-Outes A, Terleira-Fernández AI, et al. Causes of Death in Patients with Venous Thromboembolism Anticoagulated with Direct Oral Anticoagulants: A Systematic Review and Meta-Analysis. *Semin Thromb Hemost.* 2018 Jun;44(4):377-387.
- 4: Bariteau A, Stewart LK, Emmett TW, Kline JA. Systematic Review and Meta- analysis of Outcomes of Patients With Subsegmental Pulmonary Embolism With and Without Anticoagulation Treatment. *Acad Emerg Med.* 2018 Jul;25(7):828-835.
- 5: Winter MP, Scherthner GH, Lang IM. Chronic complications of venous thromboembolism. *J Thromb Haemost.* 2017 Aug;15(8):1531-1540.
- 6: Yang C, Zhu L. Sudden death caused by acute pulmonary embolism after laparoscopic total extraperitoneal inguinal hernia repair: a case report and literature review. *Hernia.* 2017 Jun;21(3):481-486.
- 7: Elias A, Mallett S, Daoud-Elias M, et al. Prognostic models in acute pulmonary embolism: a systematic review and meta-analysis. *BMJ Open.* 2016 Apr 29;6(4):e010324
- 8: Kuderer NM, Lyman GH. Guidelines for treatment and prevention of venous thromboembolism among patients with cancer. *Thromb Res.* 2014 May;133 Suppl 2(02):S122-7.
- 9: Wells P, Anderson D. The diagnosis and treatment of venous thromboembolism. *Hematology Am Soc Hematol Educ Program.* 2013;2013:457-63.
- 10: Goldhaber SZ. Venous thromboembolism: epidemiology and magnitude of the problem. *Best Pract Res Clin Haematol.* 2012 Sep;25(3):235-42.

EVIDENCE BASED STATEMENT

Domain 1; Statement 6

TEXT FOR INCLUSION IN THE DOCUMENT

DOMAIN 02, Statement 06, TOPIC: “venous thromboembolism as leading cause of preventable death”

Currently, venous thromboembolism (VTE) incidence reported 115 cases per 100.000 and it is considered the third most frequent acute cardiovascular syndrome with rising incidence rates. While mortality may be decreased by the optimization of the diagnostic and therapeutic protocols, a possible incidence increase is to be expected following the elongation of the life span and the related negative influence of comorbidities representing a risk factor: obesity, cancer, heart failure, for example.

***[Pruszczyk P, Skowrońska M, Cieurzyński M, et al. Assessment of pulmonary embolism severity and the risk of early death. Pol Arch Intern Med. 2021 Dec 22;131(12):16134]**

According to a recent review, cancer coexistence is associated with the highest VTE related death, therefore particular attention must be paid in this kind of patients management.

[Gómez-Outes A, Terleira-Fernández AI, et al. Causes of Death in Patients with Venous Thromboembolism Anticoagulated with Direct Oral Anticoagulants: A Systematic Review and Meta-Analysis. Semin Thromb Hemost. 2018 Jun;44(4):377-387].

COVID pandemic brought an increased risk of thrombosis, for which prognostic factors have been identified in an age older than 60 years, in hypertension, in diabetes and in a D-Dimer values above 3.17 µg/m.

[Gabbai-Armelin PR, de Oliveira AB, Ferrisse TM, et al. COVID-19 (SARS-CoV-2) infection and thrombotic conditions: A systematic review and meta-analysis. Eur J Clin Invest. 2021 Jun;51(6):e13559].

The issue of VTE management in the elderly has been recently stressed by Yoo, pointing out the need of reducing the risk of bleeding by thrombolytic therapy, while counteracting a potentially lethal condition as the same VTE.

[Yoo HHB. Thrombolysis in Pulmonary Embolism: Octagenarians Deserve More Attention! Arq Bras Cardiol. 2022 Jan;118(1):75-76].

A call to action in increasing public health awareness on the VTE topic as leading cause of preventable death was done already back in 2015 by Lancet journal: such call remains extremely actual and needed.

[The Lancet Haematology. Thromboembolism: an under appreciated cause of death. Lancet Haematol. 2015 Oct;2(10):e393].

EVIDENCE BASED STATEMENT

Domain 1; Statement 6

STATEMENT FOR PUBLIC EVIDENCE-BASED AWARENESS

DOMAIN 01, Statement 06 “a clot in a leg vein (*thrombosis*) represents a leading cause of preventable death”

SELECTED REFERENCES

1. Pruszczyk P, Skowrońska M, Ciurzyński M, et al. Assessment of pulmonary embolism severity and the risk of early death. *Pol Arch Intern Med.* 2021 Dec 22;131(12):16134
2. Gómez-Outes A, Terleira-Fernández AI, et al. Causes of Death in Patients with Venous Thromboembolism Anticoagulated with Direct Oral Anticoagulants: A Systematic Review and Meta-Analysis. *Semin Thromb Hemost.* 2018 Jun;44(4):377-387.
3. Gabbai-Armelin PR, de Oliveira AB, Ferrisse TM, et al. COVID-19 (SARS-CoV-2) infection and thrombotic conditions: A systematic review and meta-analysis. *Eur J Clin Invest.* 2021 Jun;51(6):e13559.
4. Yoo HHB. Thrombolysis in Pulmonary Embolism: Octogenarians Deserve More Attention! *Arq Bras Cardiol.* 2022 Jan;118(1):75-76.
5. The Lancet Haematology. Thromboembolism: an under appreciated cause of death. *Lancet Haematol.* 2015 Oct;2(10):e393.

identified LITERATURE BIAS

Different scanning and assessment protocols

SUGGESTED NEXT LINES OF RESEARCH

VTE detection in undercovered geographical areas
VTE risk proper stratification in the different populations