



# CANADIAN STROKE BEST PRACTICE RECOMMENDATIONS

## **Cerebral Venous Thrombosis** **Seventh Edition, 2024** **Appendix Five: References**

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## APPENDIX FIVE: REFERENCES

- Aaron S, Van Kammen M, Conforto A, Arauz A, Carvalho M, and Masjuan J. Decompressive neurosurgery for patients with severe cerebral venous thrombosis: Final results of the decompress 2 study. *Eur Stroke J.* 2021. 6 (1S): 4.
- Afifi K, Bellanger G, Buyck PJ, Zuurbier SM, Esperon CG, Barboza MA, et al. Features of intracranial hemorrhage in cerebral venous thrombosis. *J Neurol.* 2020. 267 (11): 3292-3298.
- Agnelli G, Becattini C, Meyer G, Muñoz A, Huisman MV, Connors JM, et al. Apixaban for the treatment of venous thromboembolism associated with cancer. *N Engl J Med.* 2020. 382 (17): 1599-1607.
- Aguiar de Sousa D, Canhão P, and Ferro JM. Safety of pregnancy after cerebral venous thrombosis: A systematic review. *Stroke.* 2016. 47 (3): 713-8.
- Aguiar de Sousa D, Canhão P, and Ferro JM. Safety of pregnancy after cerebral venous thrombosis: Systematic review update. *J Neurol.* 2018a. 265 (1): 211-212.
- Aguiar de Sousa D, Lucas Neto L, Arauz A, Sousa AL, Gabriel D, Correia M, et al. Early recanalization in patients with cerebral venous thrombosis treated with anticoagulation. *Stroke.* 2020. 51 (4): 1174-1181.
- Aguiar de Sousa D, Lucas Neto L, Canhão P, and Ferro JM. Recanalization in cerebral venous thrombosis. *Stroke.* 2018b. 49 (8): 1828-1835.
- Aguiar de Sousa D, Romoli M, Sánchez Van Kammen M, Heldner MR, Zini A, Coutinho JM, et al. Cerebral venous thrombosis in patients with heparin-induced thrombocytopenia a systematic review. *Stroke.* 2022. 53 (6): 1892-1903.
- Al Rawahi B, Almegren M, and Carrier M. The efficacy and safety of anticoagulation in cerebral vein thrombosis: A systematic review and meta-analysis. *Thromb Res.* 2018. 169: 135-139.
- Alimohammadi A, Kim DJ, and Field TS. Updates in cerebral venous thrombosis. *Curr Cardiol Rep.* 2022. 24 (1): 43-50.
- Altinkaya N, Demir S, Alkan O, and Tan M. Diagnostic value of t2\*-weighted gradient-echo mri for segmental evaluation in cerebral venous sinus thrombosis. *Clin Imaging.* 2015. 39 (1): 15-9.
- Alwan A, Miraclin AT, Bal D, Moses V, Mannam P, Ahmed M, et al. Management of severe cerebral venous sinus thrombosis using mechanical balloon assisted thrombectomy. *Stroke: Vascular and Interventional Neurology.* 2023. 3 (1): e000574.
- Amoozegar F, Ronksley PE, Sauve R, and Menon BK. Hormonal contraceptives and cerebral venous thrombosis risk: A systematic review and meta-analysis. *Front Neurol.* 2015. 6: 7.
- Baduro Y, and Ferro JM. Cerebral venous thrombosis in sub-saharan africa: A systematic review. *J Stroke Cerebrovasc Dis.* 2021. 30 (6): 105712.
- Baker P, Platton S, Gibson C, Gray E, Jennings I, Murphy P, et al. Guidelines on the laboratory aspects of assays used in haemostasis and thrombosis. *Br J Haematol.* 2020. 191 (3): 347-362.
- Bakradze E, Shu L, Henninger N, Prabhakaran S, Siegler JE, De Marchis GM, et al. Delayed diagnosis in cerebral venous thrombosis: Associated factors and clinical outcomes. *J Am Heart Assoc.* 2023. 12 (19): e030421.
- Baldini T, Asioli GM, Romoli M, Carvalho Dias M, Schulte EC, Hauer L, et al. Cerebral venous thrombosis and severe acute respiratory syndrome coronavirus-2 infection: A systematic review and meta-analysis. *Eur J Neurol.* 2021. 28 (10): 3478-3490.
- Barbhaiya M, Zuily S, Naden R, Hendry A, Manneville F, Amigo MC, et al. The 2023 acr/eular antiphospholipid syndrome classification criteria. *Arthritis Rheumatol.* 2023. 75 (10): 1687-1702.

- Beghi E, Carpio A, Forsgren L, Hesdorffer DC, Malmgren K, Sander JW, et al. Recommendation for a definition of acute symptomatic seizure. *Epilepsia*. 2010. 51 (4): 671-5.
- Bistervels IM, Buchmüller A, Wiegers HMG, F NÁ, Tardy B, Donnelly J, et al. Intermediate-dose versus low-dose low-molecular-weight heparin in pregnant and post-partum women with a history of venous thromboembolism (highlow study): An open-label, multicentre, randomised, controlled trial. *Lancet*. 2022. 400 (10365): 1777-1787.
- Bokhari R, You E, Bakhaidar M, Bajunaid K, Lasry O, Zeiler FA, et al. Dural venous sinus thrombosis in patients presenting with blunt traumatic brain injuries and skull fractures: A systematic review and meta-analysis. *World Neurosurg*. 2020. 142: 495-505.e3.
- Boonyawat K, Lensing AWA, Prins MH, Beyer-Westendorf J, Prandoni P, Martinelli I, et al. Heavy menstrual bleeding in women on anticoagulant treatment for venous thromboembolism: Comparison of high- and low-dose rivaroxaban with aspirin. *Res Pract Thromb Haemost*. 2021. 5 (2): 308-313.
- Boussier MG, and Ferro JM. Cerebral venous thrombosis: An update. *Lancet Neurol*. 2007. 6 (2): 162-70.
- Brekelmans MP, Scheres LJ, Bleker SM, Hutten BA, Timmermans A, Büller HR, et al. Abnormal vaginal bleeding in women with venous thromboembolism treated with apixaban or warfarin. *Thromb Haemost*. 2017. 117 (4): 809-815.
- Brouwers MC, Kho ME, Browman GP, Burgers JS, Cluzeau F, Feder G, et al. Agree ii: Advancing guideline development, reporting and evaluation in health care. *Cmaj*. 2010. 182 (18): E839-42.
- Bryk AH, Piróg M, Plens K, and Undas A. Heavy menstrual bleeding in women treated with rivaroxaban and vitamin k antagonists and the risk of recurrent venous thromboembolism. *Vascul Pharmacol*. 2016. 87: 242-247.
- Busch MA, Hoffmann O, Einhüpl KM, and Masuhr F. Outcome of heparin-treated patients with acute cerebral venous sinus thrombosis: Influence of the temporal pattern of intracerebral haemorrhage. *Eur J Neurol*. 2016. 23 (9): 1387-92.
- Bushnell C, McCullough LD, Awad IA, Chireau MV, Fedder WN, Furie KL, et al. Guidelines for the prevention of stroke in women: A statement for healthcare professionals from the american heart association/american stroke association. *Stroke*. 2014. 45 (5): 1545-88.
- Cari L, Fiore P, Naghavi Alhosseini M, Sava G, and Nocentini G. Blood clots and bleeding events following bnt162b2 and chadox1 ncov-19 vaccine: An analysis of european data. *J Autoimmun*. 2021. 122: 102685.
- Carrion AN, Allison TA, and Samuel S. Is a minimum duration of 5 days of unfractionated heparin infusion necessary before transition to oral anticoagulation in cerebral venous thrombosis? A retrospective chart review. *J Thromb Thrombolysis*. 2024. 57 (4): 691-698.
- Connor P, Sánchez van Kammen M, Lensing AWA, Chalmers E, Kállay K, Hege K, et al. Safety and efficacy of rivaroxaban in pediatric cerebral venous thrombosis (einstein-jr cvt). *Blood Adv*. 2020. 4 (24): 6250-6258.
- Coutinho J, de Bruijn SF, Deveber G, and Stam J. Anticoagulation for cerebral venous sinus thrombosis. *Cochrane Database Syst Rev*. 2011a. 2011 (8): Cd002005.
- Coutinho JM, Ferro JM, Canhão P, Barinagarrementeria F, Boussier MG, and Stam J. Unfractionated or low-molecular weight heparin for the treatment of cerebral venous thrombosis. *Stroke*. 2010. 41 (11): 2575-80.
- Coutinho JM, Seelig R, Boussier MG, Canhão P, Ferro JM, and Stam J. Treatment variations in cerebral venous thrombosis: An international survey. *Cerebrovasc Dis*. 2011b. 32 (3): 298-300.
- Coutinho JM, Stam J, Canhão P, Barinagarrementeria F, Boussier MG, and Ferro JM. Cerebral venous thrombosis in the absence of headache. *Stroke*. 2015. 46 (1): 245-7.
- Coutinho JM, Zuurbier SM, Aramideh M, and Stam J. The incidence of cerebral venous thrombosis: A cross-sectional study. *Stroke*. 2012. 43 (12): 3375-7.

- Coutinho JM, Zuurbier SM, Bousser MG, Ji X, Canhão P, Roos YB, et al. Effect of endovascular treatment with medical management vs standard care on severe cerebral venous thrombosis: The to-act randomized clinical trial. *JAMA Neurol.* 2020. 77 (8): 966-973.
- Cuker A, Arepally GM, Chong BH, Cines DB, Greinacher A, Gruel Y, et al. American society of hematology 2018 guidelines for management of venous thromboembolism: Heparin-induced thrombocytopenia. *Blood Adv.* 2018. 2 (22): 3360-3392.
- Dabit JY, Valenzuela-Almada MO, Vallejo-Ramos S, and Duarte-García A. Epidemiology of antiphospholipid syndrome in the general population. *Curr Rheumatol Rep.* 2022. 23 (12): 85.
- De Crem N, Peerlinck K, Vanassche T, Vanheule K, Debaveye B, Middeldorp S, et al. Abnormal uterine bleeding in vte patients treated with rivaroxaban compared to vitamin k antagonists. *Thromb Res.* 2015. 136 (4): 749-53.
- De T, Prabhakar P, Nagaraja D, and Christopher R. Janus kinase (jak) 2 v617f mutation in asian indians with cerebral venous thrombosis and without overt myeloproliferative disorders. *J Neurol Sci.* 2012. 323 (1-2): 178-82.
- DeLoughery E, and Bannow BS. Anticoagulant therapy for women: Implications for menstruation, pregnancy, and lactation. *Hematology Am Soc Hematol Educ Program.* 2022. 2022 (1): 467-473.
- Dentali F, Poli D, Scoditti U, Di Minno MN, De Stefano V, Siragusa S, et al. Long-term outcomes of patients with cerebral vein thrombosis: A multicenter study. *J Thromb Haemost.* 2012a. 10 (7): 1297-302.
- Dentali F, Squizzato A, Marchesi C, Bonzini M, Ferro JM, and Ageno W. D-dimer testing in the diagnosis of cerebral vein thrombosis: A systematic review and a meta-analysis of the literature. *J Thromb Haemost.* 2012b. 10 (4): 582-9.
- Devasagayam S, Wyatt B, Leyden J, and Kleinig T. Cerebral venous sinus thrombosis incidence is higher than previously thought: A retrospective population-based study. *Stroke.* 2016. 47 (9): 2180-2.
- Devreese KM, Pierangeli SS, de Laat B, Tripodi A, Atsumi T, and Ortel TL. Testing for antiphospholipid antibodies with solid phase assays: Guidance from the ssc of the isth. *J Thromb Haemost.* 2014. 12 (5): 792-5.
- Dhakal B, Kreuziger LB, Rein L, Kleman A, Fraser R, Aster RH, et al. Disease burden, complication rates, and health-care costs of heparin-induced thrombocytopenia in the USA: A population-based study. *Lancet Haematol.* 2018. 5 (5): e220-e231.
- Dragoman MV, Tepper NK, Fu R, Curtis KM, Chou R, and Gaffield ME. A systematic review and meta-analysis of venous thrombosis risk among users of combined oral contraception. *Int J Gynaecol Obstet.* 2018. 141 (3): 287-294.
- Duman T, Uluduz D, Midi I, Bektas H, Kablan Y, Goksel BK, et al. A multicenter study of 1144 patients with cerebral venous thrombosis: The venost study. *J Stroke Cerebrovasc Dis.* 2017. 26 (8): 1848-1857.
- Einhäupl K, Stam J, Bousser MG, De Bruijn SF, Ferro JM, Martinelli I, et al. Efn guideline on the treatment of cerebral venous and sinus thrombosis in adult patients. *Eur J Neurol.* 2010. 17 (10): 1229-35.
- Falardeau J, Lobb BM, Golden S, Maxfield SD, and Tanne E. The use of acetazolamide during pregnancy in intracranial hypertension patients. *J Neuroophthalmol.* 2013. 33 (1): 9-12.
- Ferro JM, Bendszus M, Jansen O, Coutinho JM, Dentali F, Kobayashi A, et al. Recanalization after cerebral venous thrombosis. A randomized controlled trial of the safety and efficacy of dabigatran etexilate versus dose-adjusted warfarin in patients with cerebral venous and dural sinus thrombosis. *Int J Stroke.* 2022. 17 (2): 189-197.
- Ferro JM, Bousser MG, Canhão P, Coutinho JM, Crassard I, Dentali F, et al. European stroke organization guideline for the diagnosis and treatment of cerebral venous thrombosis - endorsed by the european academy of neurology. *Eur J Neurol.* 2017. 24 (10): 1203-1213.

- Ferro JM, Canhão P, Stam J, Bousser MG, and Barinagarrementeria F. Prognosis of cerebral vein and dural sinus thrombosis: Results of the international study on cerebral vein and dural sinus thrombosis (iscvt). *Stroke*. 2004. 35 (3): 664-70.
- Ferro JM, Canhão P, Stam J, Bousser MG, Barinagarrementeria F, Massaro A, et al. Delay in the diagnosis of cerebral vein and dural sinus thrombosis: Influence on outcome. *Stroke*. 2009. 40 (9): 3133-8.
- Ferro JM, Coutinho JM, Dentali F, Kobayashi A, Alasheev A, Canhão P, et al. Safety and efficacy of dabigatran etexilate vs dose-adjusted warfarin in patients with cerebral venous thrombosis: A randomized clinical trial. *JAMA Neurol*. 2019. 76 (12): 1457-1465.
- Ferro JM, Coutinho JM, Jansen O, Bendszus M, Dentali F, Kobayashi A, et al. Dural arteriovenous fistulae after cerebral venous thrombosis. *Stroke*. 2020. 51 (11): 3344-3347.
- Ferro JM, Crassard I, Coutinho JM, Canhão P, Barinagarrementeria F, Cucchiara B, et al. Decompressive surgery in cerebrovenous thrombosis: A multicenter registry and a systematic review of individual patient data. *Stroke*. 2011. 42 (10): 2825-31.
- Field TS, Camden MC, Al-Shimemeri S, Lui G, and Lee AY. Antithrombotic strategy in cerebral venous thrombosis: Differences between neurologist and hematologist respondents in a canadian survey. *Can J Neurol Sci*. 2017. 44 (1): 116-119.
- Field TS, Dizonno V, Almekhlafi MA, Bala F, Alhabli I, Wong H, et al. Study of rivaroxaban for cerebral venous thrombosis: A randomized controlled feasibility trial comparing anticoagulation with rivaroxaban to standard-of-care in symptomatic cerebral venous thrombosis. *Stroke*. 2023. 54 (11): 2724-2736.
- Fraser IS, Critchley HO, Broder M, and Munro MG. The figo recommendations on terminologies and definitions for normal and abnormal uterine bleeding. *Semin Reprod Med*. 2011. 29 (5): 383-90.
- Frederick IO, Qiu C, Enquobahrie DA, Aurora SK, Peterlin BL, Gelaye B, et al. Lifetime prevalence and correlates of migraine among women in a pacific northwest pregnancy cohort study. *Headache*. 2014. 54 (4): 675-85.
- Gasparini S, Neri S, Brigo F, Cianci V, Mammì A, Pascarella A, et al. Late epileptic seizures following cerebral venous thrombosis: A systematic review and meta-analysis. *Neurol Sci*. 2022. 43 (9): 5229-5236.
- Geisbüscher C, Herweh C, Gumbinger C, Ringleb PA, Möhlenbruch MA, and Nagel S. Chronic intracranial hypertension after cerebral venous and sinus thrombosis - frequency and risk factors. *Neurol Res Pract*. 2021. 3 (1): 28.
- Gil-Díaz A, Gil-Hernández A, Lozano-Jiménez AI, Benítez-Peña J, and Conde-Martel A. Safety of covid-19 vaccination in patients with previous cerebral venous sinus thrombosis. *Thromb Res*. 2022. 209: 84-85.
- Girot M, Ferro JM, Canhão P, Stam J, Bousser MG, Barinagarrementeria F, et al. Predictors of outcome in patients with cerebral venous thrombosis and intracerebral hemorrhage. *Stroke*. 2007. 38 (2): 337-42.
- Goldhaber SZ. Race and venous thromboembolism: Nature or nurture? *Circulation*. 2014. 129 (14): 1463-5.
- Goyal M, Fladt J, Coutinho JM, McDonough R, and Ospel J. Endovascular treatment for cerebral venous thrombosis: Current status, challenges, and opportunities. *J Neurointerv Surg*. 2022. 14 (8): 788-793.
- Green M, Styles T, Russell T, Sada C, Jallow E, Stewart J, et al. Non-genetic and genetic risk factors for adult cerebral venous thrombosis. *Thromb Res*. 2018. 169: 15-22.
- Greinacher A, Selleng K, Palankar R, Wesche J, Handtke S, Wolff M, et al. Insights in chadox1 ncov-19 vaccine-induced immune thrombotic thrombocytopenia. *Blood*. 2021. 138 (22): 2256-2268.
- Guyatt G, Oxman AD, Akl EA, Kunz R, Vist G, Brozek J, et al. Grade guidelines: 1. Introduction-grade evidence profiles and summary of findings tables. *J Clin Epidemiol*. 2011. 64 (4): 383-94.

- Guyatt GH, Oxman AD, Kunz R, Vist GE, Falck-Ytter Y, and Schünemann HJ. What is "quality of evidence" and why is it important to clinicians? *Bmj*. 2008a. 336 (7651): 995-8.
- Guyatt GH, Oxman AD, Vist GE, Kunz R, Falck-Ytter Y, Alonso-Coello P, et al. Grade: An emerging consensus on rating quality of evidence and strength of recommendations. *Bmj*. 2008b. 336 (7650): 924-6.
- Hamulyák EN, Wieggers HMG, Scheres LJJ, Hutten BA, de Lange ME, Timmermans A, et al. Heavy menstrual bleeding on direct factor xa inhibitors: Rationale and design of the medea study. *Res Pract Thromb Haemost*. 2021. 5 (1): 223-230.
- Heldner MR, Zuurbier SM, Li B, Von Martial R, Meijers JCM, Zimmermann R, et al. Prediction of cerebral venous thrombosis with a new clinical score and d-dimer levels. *Neurology*. 2020. 95 (7): e898-e909.
- Heran M, Lindsay P, Gubitz G, Yu A, Ganesh A, Lund R, et al. Canadian stroke best practice recommendations: Acute stroke management, 7(th) edition practice guidelines update, 2022. *Can J Neurol Sci*. 2022. 1-94.
- Hiltunen S, Putaala J, Haapaniemi E, and Tatlisumak T. Long-term outcome after cerebral venous thrombosis: Analysis of functional and vocational outcome, residual symptoms, and adverse events in 161 patients. *J Neurol*. 2016. 263 (3): 477-84.
- Hippisley-Cox J, Patone M, Mei XW, Saatci D, Dixon S, Khunti K, et al. Risk of thrombocytopenia and thromboembolism after covid-19 vaccination and sars-cov-2 positive testing: Self-controlled case series study. *Bmj*. 2021. 374: n1931.
- Houghton DE, Wysokinski W, Casanegra AI, Padrnos LJ, Shah S, Wysokinska E, et al. Risk of venous thromboembolism after covid-19 vaccination. *J Thromb Haemost*. 2022. 20 (7): 1638-1644.
- Huisman MV, Ferreira M, Feuring M, Fraessdorf M, and Klok FA. Less abnormal uterine bleeding with dabigatran than warfarin in women treated for acute venous thromboembolism. *J Thromb Haemost*. 2018. 16 (9): 1775-1778.
- Idbaih A, Boukobza M, Crassard I, Porcher R, Bousser MG, and Chabriat H. Mri of clot in cerebral venous thrombosis: High diagnostic value of susceptibility-weighted images. *Stroke*. 2006. 37 (4): 991-5.
- Juli C, Amalia L, Gamayani U, and Atik N. D-dimer level associates with the incidence of focal neurological deficits in cerebral venous thrombosis patients. *J Blood Med*. 2020. 11: 449-455.
- Kashkoush AI, Ma H, Agarwal N, Panczykowski D, Tonetti D, Weiner GM, et al. Cerebral venous sinus thrombosis in pregnancy and puerperium: A pooled, systematic review. *J Clin Neurosci*. 2017. 39: 9-15.
- Kearon C, Ageno W, Cannegieter SC, Cosmi B, Geersing G-J, Kyrle PA, et al. Categorization of patients as having provoked or unprovoked venous thromboembolism: Guidance from the ssc of isth. *Journal of Thrombosis and Haemostasis*. 2016. 14 (7): 1480-1483.
- Ken-Dror G, Cotlarciuc I, Martinelli I, Grandone E, Hiltunen S, Lindgren E, et al. Genome-wide association study identifies first locus associated with susceptibility to cerebral venous thrombosis. *Ann Neurol*. 2021. 90 (5): 777-788.
- Kim DJ, Honig A, Alimohammadi A, Sepehry AA, Zhou LW, and Field TS. Recanalization and outcomes after cerebral venous thrombosis: A systematic review and meta-analysis. *Res Pract Thromb Haemost*. 2023. 7 (3): 100143.
- Klein P, Shu L, Nguyen TN, Siegler JE, Omran SS, Simpkins AN, et al. Outcome prediction in cerebral venous thrombosis: The in-revasc score. *J Stroke*. 2022. 24 (3): 404-416.
- Klok FA, Pai M, Huisman MV, and Makris M. Vaccine-induced immune thrombotic thrombocytopenia. *Lancet Haematol*. 2022. 9 (1): e73-e80.

- Koopman K, Uyttenboogaart M, Vroomen PC, van der Meer J, De Keyser J, and Luijckx GJ. Long-term sequelae after cerebral venous thrombosis in functionally independent patients. *J Stroke Cerebrovasc Dis*. 2009. 18 (3): 198-202.
- Ladhani NNN, Swartz RH, Foley N, Nerenberg K, Smith EE, Gubitz G, et al. Canadian stroke best practice consensus statement: Acute stroke management during pregnancy. *Int J Stroke*. 2018. 13 (7): 743-758.
- Lamy M, Palazzo P, Agius P, Chomel JC, Ciron J, Berthomet A, et al. Should we screen for janus kinase 2 v617f mutation in cerebral venous thrombosis? *Cerebrovasc Dis*. 2017. 44 (3-4): 97-104.
- Lancastle D, Kopp Kallner H, Hale G, Wood B, Ashcroft L, and Driscoll H. Development of a brief menstrual quality of life measure for women with heavy menstrual bleeding. *BMC Womens Health*. 2023. 23 (1): 105.
- Leach JL, Wolujewicz M, and Strub WM. Partially recanalized chronic dural sinus thrombosis: Findings on mr imaging, time-of-flight mr venography, and contrast-enhanced mr venography. *AJNR Am J Neuroradiol*. 2007. 28 (4): 782-9.
- Li J, Wei L, Xu B, Zhang X, and Wang S. Risk factors and early diagnosis of cerebral venous sinus occlusion secondary to traumatic brain injury. *Neurol India*. 2015. 63 (6): 881-8.
- Lieberman AL, Bakradze E, McHugh DC, Esenwa CC, and Lipton RB. Assessing diagnostic error in cerebral venous thrombosis via detailed chart review. *Diagnosis (Berl)*. 2019. 6 (4): 361-367.
- Lieberman AL, Gialdini G, Bakradze E, Chatterjee A, Kamel H, and Merkler AE. Misdiagnosis of cerebral vein thrombosis in the emergency department. *Stroke*. 2018. 49 (6): 1504-1506.
- Lindgren E, Rentzos A, Hiltunen S, Serrano F, Heldner MR, Zuurbier SM, et al. Dural arteriovenous fistulas in cerebral venous thrombosis: Data from the international cerebral venous thrombosis consortium: Data from the international cerebral venous thrombosis consortium. *Eur J Neurol*. 2022. 29 (3): 761-770.
- Lindgren E, Silvis SM, Hiltunen S, Heldner MR, Serrano F, de Scisco M, et al. Acute symptomatic seizures in cerebral venous thrombosis. *Neurology*. 2020. 95 (12): e1706-e1715.
- Linn J, Michl S, Katja B, Pfefferkorn T, Wiesmann M, Hartz S, et al. Cortical vein thrombosis: The diagnostic value of different imaging modalities. *Neuroradiology*. 2010. 52 (10): 899-911.
- Liu L, Jiang H, Wei H, Zhou Y, Wu Y, Zhang K, et al. Risk factors of impaired employability after cerebral venous thrombosis. *CNS Neurosci Ther*. 2023. 29 (4): 1086-1093.
- Marchandot B, Carmona A, Trimaille A, Curtiaud A, and Morel O. Procoagulant microparticles: A possible link between vaccine-induced immune thrombocytopenia (vitt) and cerebral sinus venous thrombosis. *J Thromb Thrombolysis*. 2021. 52 (3): 689-691.
- Marlar RA, Gausman JN, Tsuda H, Rollins-Raval MA, and Brinkman HJM. Recommendations for clinical laboratory testing for protein s deficiency: Communication from the ssc committee plasma coagulation inhibitors of the isth. *J Thromb Haemost*. 2021. 19 (1): 68-74.
- Martinelli I, Bucciarelli P, Passamonti SM, Battaglioli T, Previtali E, and Mannucci PM. Long-term evaluation of the risk of recurrence after cerebral sinus-venous thrombosis. *Circulation*. 2010. 121 (25): 2740-6.
- Martinelli I, Lensing AW, Middeldorp S, Levi M, Beyer-Westendorf J, van Bellen B, et al. Recurrent venous thromboembolism and abnormal uterine bleeding with anticoagulant and hormone therapy use. *Blood*. 2016. 127 (11): 1417-25.
- May J, Westbrook B, and Cuker A. Heparin-induced thrombocytopenia: An illustrated review. *Res Pract Thromb Haemost*. 2023. 7 (5): 100283.
- McBane RD, 2nd, Wysokinski WE, Le-Rademacher JG, Zemla T, Ashrani A, Tafur A, et al. Apixaban and dalteparin in active malignancy-associated venous thromboembolism: The adam vte trial. *J Thromb Haemost*. 2020. 18 (2): 411-421.

- McCullough-Hicks ME, Halterman DJ, Anderson D, Cohen K, and Lakshminarayan K. High incidence and unique features of cerebral venous sinus thrombosis in hospitalized patients with covid-19 infection. *Stroke*. 2022. 53 (9): e407-e410.
- Micaity I, and Samuelson Bannow BT. Vte and anticoagulation in menstruating women. *Thrombosis Update*. 2021. 5: 100088.
- Middeldorp S, Nieuwlaat R, Baumann Kreuziger L, Coppens M, Houghton D, James AH, et al. American society of hematology 2023 guidelines for management of venous thromboembolism: Thrombophilia testing. *Blood Adv*. 2023. 7 (22): 7101-7138.
- Miranda B, Aaron S, Arauz A, Barinagarrementeria F, Borhani-Haghighi A, Carvalho M, et al. The benefit of extending oral anticoagulation treatment (excoa) after acute cerebral vein thrombosis (cvt): Excoa-cvt cluster randomized trial protocol. *Int J Stroke*. 2018. 13 (7): 771-774.
- Miranda B, Ferro JM, Canhão P, Stam J, Bousser MG, Barinagarrementeria F, et al. Venous thromboembolic events after cerebral vein thrombosis. *Stroke*. 2010. 41 (9): 1901-6.
- Mollan SP, Davies B, Silver NC, Shaw S, Mallucci CL, Wakerley BR, et al. Idiopathic intracranial hypertension: Consensus guidelines on management. *J Neurol Neurosurg Psychiatry*. 2018. 89 (10): 1088-1100.
- Naik A, Smith E, Dharnipragada R, Catapano JS, Cramer SW, Johnson R, et al. Endovascular and medical management of cerebral venous thrombosis: A systematic review and network meta-analysis. *World Neurosurg*. 2022. 165: e197-e205.
- Nelson ML, Grudniewicz A, and Albadry S. Applying clinical practice guidelines to the complex patient: Insights for practice and policy from stroke rehabilitation. *Healthc Q*. 2016. 19 (2): 38-43.
- Netteland DF, Mejlænder-Evjensvold M, Skaga NO, Sandset EC, Aarhus M, and Helseth E. Cerebral venous thrombosis in traumatic brain injury: A cause of secondary insults and added mortality. *J Neurosurg*. 2020. 134 (6): 1912-1920.
- Netteland DF, Sandset EC, Mejlænder-Evjensvold M, Aarhus M, Jeppesen E, Aguiar de Sousa D, et al. Cerebral venous sinus thrombosis in traumatic brain injury: A systematic review of its complications, effect on mortality, diagnostic and therapeutic management, and follow-up. *Front Neurol*. 2022. 13: 1079579.
- Newman-Toker DE, Moy E, Valente E, Coffey R, and Hines AL. Missed diagnosis of stroke in the emergency department: A cross-sectional analysis of a large population-based sample. *Diagnosis (Berl)*. 2014. 1 (2): 155-166.
- Nicholson M, Goubran H, Chan N, and Siegal D. No apparent association between mrna covid-19 vaccination and venous thromboembolism. *Blood Rev*. 2022. 56: 100970.
- Oedingen C, Scholz S, and Razum O. Systematic review and meta-analysis of the association of combined oral contraceptives on the risk of venous thromboembolism: The role of the progestogen type and estrogen dose. *Thromb Res*. 2018. 165: 68-78.
- Ordi-Ros J, Sáez-Comet L, Pérez-Conesa M, Vidal X, Riera-Mestre A, Castro-Salomó A, et al. Rivaroxaban versus vitamin k antagonist in antiphospholipid syndrome: A randomized noninferiority trial. *Ann Intern Med*. 2019. 171 (10): 685-694.
- Ortel TL, Neumann I, Ageno W, Beyth R, Clark NP, Cuker A, et al. American society of hematology 2020 guidelines for management of venous thromboembolism: Treatment of deep vein thrombosis and pulmonary embolism. *Blood Adv*. 2020. 4 (19): 4693-4738.
- Otite FO, Patel S, Sharma R, Khandwala P, Desai D, Latorre JG, et al. Trends in incidence and epidemiologic characteristics of cerebral venous thrombosis in the united states. *Neurology*. 2020. 95 (16): e2200-e2213.
- Pai M. Epidemiology of vitt. *Semin Hematol*. 2022. 59 (2): 72-75.



- Palazzo P, Agius P, Ingrand P, Ciron J, Lamy M, Berthomet A, et al. Venous thrombotic recurrence after cerebral venous thrombosis: A long-term follow-up study. *Stroke*. 2017. 48 (2): 321-326.
- Passamonti SM, Biguzzi E, Cazzola M, Franchi F, Gianniello F, Bucciarelli P, et al. The jak2 v617f mutation in patients with cerebral venous thrombosis. *J Thromb Haemost*. 2012. 10 (6): 998-1003.
- Pavord S, Scully M, Hunt BJ, Lester W, Bagot C, Craven B, et al. Clinical features of vaccine-induced immune thrombocytopenia and thrombosis. *N Engl J Med*. 2021. 385 (18): 1680-1689.
- Pawlowski C, Rincón-Hekking J, Awasthi S, Pandey V, Lenehan P, Venkatakrishnan AJ, et al. Cerebral venous sinus thrombosis is not significantly linked to covid-19 vaccines or non-covid vaccines in a large multi-state health system. *J Stroke Cerebrovasc Dis*. 2021. 30 (10): 105923.
- Pengo V, Denas G, Zoppellaro G, Jose SP, Hoxha A, Ruffatti A, et al. Rivaroxaban vs warfarin in high-risk patients with antiphospholipid syndrome. *Blood*. 2018. 132 (13): 1365-1371.
- Pires GS, Ribeiro DD, Oliveira JAQ, Freitas LC, Vaez R, Annichino-Bizzacchi JM, et al. Risk factors associated with recurrent venous thromboembolism after a first cerebral venous thrombosis event: A cohort study. *Thromb Res*. 2019. 178: 85-90.
- Ranjan R, Ken-Dror G, Martinelli I, Grandone E, Hiltunen S, Lindgren E, et al. Age of onset of cerebral venous thrombosis: The beast study. *Eur Stroke J*. 2023. 8 (1): 344-350.
- Raskob GE, van Es N, Verhamme P, Carrier M, Di Nisio M, Garcia D, et al. Edoxaban for the treatment of cancer-associated venous thromboembolism. *N Engl J Med*. 2018. 378 (7): 615-624.
- Salehi Omran S, Shu L, Chang A, Parikh NS, Zubair AS, Simpkins AN, et al. Timing and predictors of recanalization after anticoagulation in cerebral venous thrombosis. *J Stroke*. 2023. 25 (2): 291-298.
- Sánchez van Kammen M, Aguiar de Sousa D, Poli S, Cordonnier C, Heldner MR, van de Munckhof A, et al. Characteristics and outcomes of patients with cerebral venous sinus thrombosis in sars-cov-2 vaccine-induced immune thrombotic thrombocytopenia. *JAMA Neurol*. 2021a. 78 (11): 1314-1323.
- Sánchez van Kammen M, Heldner MR, Brodard J, Scutelnic A, Silvis S, Schroeder V, et al. Frequency of thrombocytopenia and platelet factor 4/heparin antibodies in patients with cerebral venous sinus thrombosis prior to the covid-19 pandemic. *Jama*. 2021b. 326 (4): 332-338.
- Sánchez van Kammen M, Lindgren E, Silvis SM, Hiltunen S, Heldner MR, Serrano F, et al. Late seizures in cerebral venous thrombosis. *Neurology*. 2020. 95 (12): e1716-e1723.
- Saposnik G, Bushnell C, Coutinho JM, Field TS, Furie KL, Galadanci N, et al. Diagnosis and management of cerebral venous thrombosis: A scientific statement from the american heart association. *Stroke*. 2024. 0 (0). doi: 10.1161/STR.000000000000456;0(0)
- Scheres L, Brekelmans M, Ageno W, Ay C, Büller HR, Eichinger S, et al. Abnormal vaginal bleeding in women of reproductive age treated with edoxaban or warfarin for venous thromboembolism: A post hoc analysis of the hokusai-vte study. *Bjog*. 2018. 125 (12): 1581-1589.
- Schrag D, Uno H, Rosovsky R, Rutherford C, Sanfilippo K, Villano JL, et al. Direct oral anticoagulants vs low-molecular-weight heparin and recurrent vte in patients with cancer: A randomized clinical trial. *Jama*. 2023. 329 (22): 1924-1933.
- Schulman S. Less menorrhagia for women with vte. *Blood*. 2016. 127 (11): 1378-9.
- Schünemann HJ, Cushman M, Burnett AE, Kahn SR, Beyer-Westendorf J, Spencer FA, et al. American society of hematology 2018 guidelines for management of venous thromboembolism: Prophylaxis for hospitalized and nonhospitalized medical patients. *Blood Adv*. 2018. 2 (22): 3198-3225.
- Scutelnic A, Krzywicka K, Mbroh J, van de Munckhof A, van Kammen MS, de Sousa DA, et al. Management of cerebral venous thrombosis due to adenoviral covid-19 vaccination. *Ann Neurol*. 2022. 92 (4): 562-573.

- Shakibajahromi B, Borhani-Haghighi A, Ghaedian M, Feiz F, Molavi Vardanjani H, Safari A, et al. Early, delayed, and expanded intracranial hemorrhage in cerebral venous thrombosis. *Acta Neurol Scand.* 2019. 140 (6): 435-442.
- Shu L, Bakradze E, Omran SS, Giles J, Amar J, Henninger N, et al. Predictors of recurrent venous thrombosis after cerebral venous thrombosis: Analysis of the action-cvt study. *Neurology.* 2022. 99 (21): e2368-e2377.
- Siegler JE, Dasgupta S, Abdalkader M, Penckofer M, Yaghi S, and Nguyen TN. Cerebrovascular disease in covid-19. *Viruses.* 2023. 15 (7).
- Silvis SM, de Sousa DA, Ferro JM, and Coutinho JM. Cerebral venous thrombosis. *Nat Rev Neurol.* 2017. 13 (9): 555-565.
- Silvis SM, Hiltunen S, Lindgren E, Jood K, Zuurbier SM, Middeldorp S, et al. Cancer and risk of cerebral venous thrombosis: A case-control study. *J Thromb Haemost.* 2018. 16 (1): 90-95.
- Silvis SM, Lindgren E, Hiltunen S, Devasagayam S, Scheres LJ, Jood K, et al. Postpartum period is a risk factor for cerebral venous thrombosis. *Stroke.* 2019. 50 (2): 501-503.
- Silvis SM, Middeldorp S, Zuurbier SM, Cannegieter SC, and Coutinho JM. Risk factors for cerebral venous thrombosis. *Semin Thromb Hemost.* 2016. 42 (6): 622-31.
- Simaan N, Molad J, Honig A, Filioglo A, Shbat F, Auriel E, et al. Characteristics of patients with cerebral sinus venous thrombosis and jak2 v617f mutation. *Acta Neurol Belg.* 2023. 123 (5): 1855-1859.
- Simpson CR, Shi T, Vasileiou E, Katikireddi SV, Kerr S, Moore E, et al. First-dose chadox1 and bnt162b2 covid-19 vaccines and thrombocytopenic, thromboembolic and hemorrhagic events in scotland. *Nat Med.* 2021. 27 (7): 1290-1297.
- Sipilä JOT, Ruuskanen JO, Heervä E, Posti JP, Rautava P, and Kytö V. Cancer occurrence after a cerebral venous thrombosis: A nationwide registry study. *Stroke.* 2022. 53 (5): e189-e191.
- Skajaa N, Farkas DK, Adelborg K, and Sørensen HT. Risk and prognosis of cancer in patients with cerebral venous thrombosis compared with the danish general population. *Stroke.* 2023. 54 (10): 2576-2582.
- Smith SV, and Friedman DI. The idiopathic intracranial hypertension treatment trial: A review of the outcomes. *Headache.* 2017. 57 (8): 1303-1310.
- Spirk D, Sebastian T, Barco S, Banyai M, Beer JH, Mazzolai L, et al. Clinical outcomes of incidental venous thromboembolism in cancer and noncancer patients: The swiss venous thromboembolism registry (swivter). *Thromb Haemost.* 2021. 121 (5): 641-649.
- Stewart WF, Simon D, Shechter A, and Lipton RB. Population variation in migraine prevalence: A meta-analysis. *J Clin Epidemiol.* 1995. 48 (2): 269-80.
- Swartz RH, Cayley ML, Foley N, Ladhani NNN, Leffert L, Bushnell C, et al. The incidence of pregnancy-related stroke: A systematic review and meta-analysis. *Int J Stroke.* 2017. 12 (7): 687-697.
- Taquet M, Husain M, Geddes JR, Luciano S, and Harrison PJ. Cerebral venous thrombosis and portal vein thrombosis: A retrospective cohort study of 537,913 covid-19 cases. *EClinicalMedicine.* 2021. 39: 101061.
- Thaller M, Wakerley BR, Abbott S, Tahrani AA, Mollan SP, and Sinclair AJ. Managing idiopathic intracranial hypertension in pregnancy: Practical advice. *Pract Neurol.* 2022. 22 (4): 295-300.
- Towfighi A, Boden-Albala B, Cruz-Flores S, El Hussein N, Odonkor CA, Ovbiagele B, et al. Strategies to reduce racial and ethnic inequities in stroke preparedness, care, recovery, and risk factor control: A scientific statement from the american heart association. *Stroke.* 2023. 54 (7): e371-e388.
- Tripodi A, Cohen H, and Devreese KMJ. Lupus anticoagulant detection in anticoagulated patients. Guidance from the scientific and standardization committee for lupus anticoagulant/antiphospholipid antibodies of the international society on thrombosis and haemostasis. *J Thromb Haemost.* 2020. 18 (7): 1569-1575.

- Tu TM, Yi SJ, Koh JS, Saffari SE, Hoe RHM, Chen GJ, et al. Incidence of cerebral venous thrombosis following sars-cov-2 infection vs mrna sars-cov-2 vaccination in singapore. *JAMA Netw Open*. 2022. 5 (3): e222940.
- van Dam LF, van Walderveen MAA, Kroft LJM, Kruyt ND, Wermer MJH, van Osch MJP, et al. Current imaging modalities for diagnosing cerebral vein thrombosis - a critical review. *Thromb Res*. 2020. 189: 132-139.
- Venous thromboembolic disease and combined oral contraceptives: Results of international multicentre case-control study. World health organization collaborative study of cardiovascular disease and steroid hormone contraception. *Lancet*. 1995. 346 (8990): 1575-82.
- Wahood W, Rizvi AA, Patel V, Narain S, Cloft H, Rabinstein AA, et al. Trends in utilization and outcomes of mechanical thrombectomy for cerebral venous thrombosis: A national inpatient sample study. *Interv Neuroradiol*. 2023. 15910199231182454.
- Wall M, McDermott MP, Kiebertz KD, Corbett JJ, Feldon SE, Friedman DI, et al. Effect of acetazolamide on visual function in patients with idiopathic intracranial hypertension and mild visual loss: The idiopathic intracranial hypertension treatment trial. *Jama*. 2014. 311 (16): 1641-51.
- Wasay M, Kojan S, Dai AI, Bobustuc G, and Sheikh Z. Headache in cerebral venous thrombosis: Incidence, pattern and location in 200 consecutive patients. *J Headache Pain*. 2010. 11 (2): 137-9.
- Weyand AC, and James PD. Sexism in the management of bleeding disorders. *Res Pract Thromb Haemost*. 2021. 5 (1): 51-54.
- Woller SC, Stevens SM, Kaplan D, Wang TF, Branch DW, Groat D, et al. Apixaban compared with warfarin to prevent thrombosis in thrombotic antiphospholipid syndrome: A randomized trial. *Blood Adv*. 2022. 6 (6): 1661-1670.
- Xavier SG, Gadelha T, Rezende SM, Zalberg IR, and Spector N. Jak2v617f mutation in patients with thrombosis: To screen or not to screen? *Int J Lab Hematol*. 2011. 33 (2): 117-24.
- Xu W, Gao L, Li T, Ramdoyal ND, Zhang J, and Shao A. The performance of ct versus mri in the differential diagnosis of cerebral venous thrombosis. *Thromb Haemost*. 2018. 118 (6): 1067-1077.
- Yaghi S, Saldanha IJ, Misquith C, Zaidat B, Shah A, Joudi K, et al. Direct oral anticoagulants versus vitamin k antagonists in cerebral venous thrombosis: A systematic review and meta-analysis. *Stroke*. 2022a. 53 (10): 3014-3024.
- Yaghi S, Shu L, Bakradze E, Salehi Omran S, Giles JA, Amar JY, et al. Direct oral anticoagulants versus warfarin in the treatment of cerebral venous thrombosis (action-cvt): A multicenter international study. *Stroke*. 2022b. 53 (3): 728-738.
- Yang Q, Duan J, Fan Z, Qu X, Xie Y, Nguyen C, et al. Early detection and quantification of cerebral venous thrombosis by magnetic resonance black-blood thrombus imaging. *Stroke*. 2016. 47 (2): 404-9.
- Young AM, Marshall A, Thirlwall J, Chapman O, Lokare A, Hill C, et al. Comparison of an oral factor xa inhibitor with low molecular weight heparin in patients with cancer with venous thromboembolism: Results of a randomized trial (select-d). *J Clin Oncol*. 2018. 36 (20): 2017-2023.
- Yu AYY, Hill MD, Asdaghi N, Boulanger JM, Camden MC, Campbell BCV, et al. Sex differences in diagnosis and diagnostic revision of suspected minor cerebral ischemic events. *Neurology*. 2021. 96 (5): e732-e739.
- Zakherah MS, Sayed GH, El-Nashar SA, and Shaaban MM. Pictorial blood loss assessment chart in the evaluation of heavy menstrual bleeding: Diagnostic accuracy compared to alkaline hematin. *Gynecol Obstet Invest*. 2011. 71 (4): 281-4.
- Zhou LW, Yu AYY, Hall W, Hill MD, and Field TS. Validity of icd-10 codes for cerebral venous thrombosis depends on clinical context. *Can J Neurol Sci*. 2022. 49 (6): 813-816.

Zhou LW, Yu AYY, Ngo L, Hill MD, and Field TS. Incidence of cerebral venous thrombosis: A population-based study, systematic review, and meta-analysis. *Stroke*. 2023. 54 (1): 169-177.

Zuurbier SM, Arnold M, Middeldorp S, Broeg-Morvay A, Silvis SM, Heldner MR, et al. Risk of cerebral venous thrombosis in obese women. *JAMA Neurol*. 2016. 73 (5): 579-84.