

Treatment of Pediatric Cerebral Venous Sinus Thromboses: The Role of Anticoagulation Child's Nervous System (2020) 36:2621-2633

Background: Cerebral venous sinus thromboses (CVST) occur in children with a variety of etiologies. However, no standard treatment paradigm is established

Objective: To identify the treatments, their outcomes, and role of anticoagulation in pediatric patients with CVST

Design: A systematic review using PubMed, Embase, Scopus, Cochrane Library and Cochrane Central Register of Controlled Trials (no language or date-limits applied)

Inclusion criteria: Age <18y, diagnosis of CSVT, intervention of anticoagulation, antiplatelet or other conservative, medical, surgical, or endovascular treatment, with an emphasis on the impact/outcomes of treatment

ACADEMIC P.E.A.R.L.S

Pediatric Evidence And Research Learning Snippet



Treatment Options in Pediatric CSVT (Cerebral Venous Sinus Thromboses)

Results :

- 51 studies were included. No RCTs were identified
- Studies on LMWH (n=12), UFH (n=9), LMWH and UFH (n=9), combination of LMWH, UFH, and warfarin (n=6)
- Treatment in children depends on etiology
- Decision on case-to-case basis
 - Infectious CVST: broad-spectrum antibiotics, surgery, anticoagulation
 - Neoplastic and traumatic CVST: anticoagulation
 - Metabolic CVST: correction of metabolic derangements, anticoagulation
 - Autoimmune, congenital, and thrombotic CVST: anticoagulation, treatment of underlying disorder
- Most common anticoagulants used: LMWH > UFH
 - Endovascular interventions (venous thrombectomy, IV thrombolytic) uncommon and variable success
- LMWH is effective and safe and feasible
(UFH= unfractionated heparin, LMWH= low molecular weight heparin)

Conclusion:

- Conservative, medical, thrombolytic, endovascular, and surgical treatments all have a role in the treatment of pediatric CVSTs
- Anticoagulation is commonly applied, is safe and effective
- Risks and benefits of anticoagulation to be considered on an individual basis

Key Message: Anticoagulation is commonly applied and found to be safe and effective in Pediatric CSVT

EXPERT COMMENT



- Present evidence recommends a multimodal treatment approach: start anticoagulation, identify and treat the underlying cause, give supportive care
- LMWH is safe in acute setting and feasible for longer administration
- Can be used even in neonates and infants and does not need routine blood monitoring
- Start early and prevent morbidity

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Reference

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