Thrombolysis for Cerebral Vein and Dural Sinus Thrombosis

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There is no definite evidence for the best treatment for cerebral vein and dural sinus thrombosis (CVDST). The rarity and heterogeneity of clinical presentation of the disease contribute to the scarcity of therapeutic trials and to the uncertainty on the best therapeutic approach. Anticoagulants are widely used as first line therapy, their rationale being to avoid thrombus extension and favor spontaneous thrombus dissolution. Thrombolysis is considered when a rapid recanalization is sought, especially in patients who deteriorate despite anticoagulant therapy.

Objective
The aim of this study was to assess the efficacy and the safety of thrombolytics in the treatment of CVDST. The outcomes investigated were complete recovery and death. Complete recovery was considered a clinically relevant outcome for a disease with a general good prognosis. Death was considered important as well if thrombolysis is delivered to patients who deteriorate. Symptomatic intracranial hemorrhages with clinical deterioration or death and major extracranial hemorrhages requiring medical interventions or causing permanent deficiency were considered as a measure of safety.

Search Strategy
We searched the Cochrane Stroke Group Trials Register (last searched March 2003), the Cochrane Central Register of Controlled Trials (Cochrane Library, 2003, Issue 1), MEDLINE (1966 to March 2003) and EMBASE (1980 to March 2003). Reference lists of all relevant publications were screened.

Selection Criteria
Selection criteria included randomized controlled trials (RCTs) that used any thrombolytic agent, independently of duration, dosage, and route of administration, for treatment of CVDST. We defined CVDST as a symptomatic clinical condition with the demonstration of vein/sinus thrombosis by magnetic resonance venography, intra-arterial venography, or computed tomography venography.

Data Collection and Analysis
Using an a priori protocol, we planned that 2 groups of reviewers independently select trials and extract data.

Main Results
The searches retrieved 1766 references, but no RCTs were found.

The articles were, for the most part, on case reports or small case series of CVDST patients treated with local thrombolysis.

Reviewers’ Conclusion
There is not any available evidence from RCTs about the efficacy and safety of thrombolysis for CVDST. The great number of cases of CVDST treated with thrombolysis reported in literature proves that thrombolytics are widely used, either following, or sometimes as an alternative to, anticoagulant therapy. Therefore, an RCT on thrombolytic therapy for CVDST is urgently needed; indeed, it should be more appropriate to include patients in an RCT than treating them with a therapy of which the risks and benefits are still unknown.

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