Thrombolysis for Cerebral Vein and Dural Sinus Thrombosis

Alfonso Ciccone, MD; Patrícia Canhão, MD; Filipa Falcão, MD; José M. Ferro, MD; Roberto Sterzi, MD

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.

Thrombolysis for Cerebral Vein and Dural Sinus Thrombosis
Alfonso Ciccone, Patrícia Canhão, Filipa Falcão, José M. Ferro and Roberto Sterzi

Stroke. 2004;35:2428; originally published online August 19, 2004;
doi: 10.1161/01.STR.0000141199.20348.48
Stroke is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
Copyright © 2004 American Heart Association, Inc. All rights reserved.
Print ISSN: 0039-2499. Online ISSN: 1524-4628

The online version of this article, along with updated information and services, is located on the World Wide Web at:
http://stroke.ahajournals.org/content/35/10/2428

Permissions: Requests for permissions to reproduce figures, tables, or portions of articles originally published in Stroke can be obtained via RightsLink, a service of the Copyright Clearance Center, not the Editorial Office. Once the online version of the published article for which permission is being requested is located, click Request Permissions in the middle column of the Web page under Services. Further information about this process is available in the Permissions and Rights Question and Answer document.

Reprints: Information about reprints can be found online at:
http://www.lww.com/reprints

Subscriptions: Information about subscribing to Stroke is online at:
http://stroke.ahajournals.org/subscriptions/