



**ACUTE ISCHEMIC STROKE
ANNOTATED BIBLIOGRAPHY**

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This annotated bibliography is in support of the meeting in Ponte Vedra, FL on advanced diagnostic and therapeutics in the treatment of Acute Ischemic Stroke (AIS). The lectures presented at this conference presented material related to: stroke systems of care, triage and transfer of ischemic stroke patients, as well as new techniques for treatment of stroke patients including intra-arterial rt-PA use, mechanical thromboectomy, and the outcome of patients admitted to the interventional radiology suite. For more detail of the lectures presented during this conference go to the FERNE website at:

http://www.ferne.org/Lectures/clindec_2007/ferne_clindec_2007_stroke.htm

Hyperacute Thrombolysis with IV rtPA of Acute Ischemic Stroke: Efficacy and safety profile of 54 patients at a tertiary referral center in a developing country.

Padma, M et al. Neurol India. 2007;55:46-49.

Quantity and efficacy of patients treated with IV rt-PA in developing countries was studied. Authors found that despite the literature demonstrating the effectiveness of rt-PA in a clinical setting it was underused in their clinics. The study concluded that hyperacute thrombolysis is both feasible and useful strategy in treatment of ischemic stroke.

TPA use for Stroke in the Registry of the Canadian Stroke Network.

Nadeau J et al. Can J Neurol Sci. 2005;32:433-39.

Safety and effectiveness of IV rt-PA use in Canada was studied. Of all the patients admitted to the hospital with symptoms of stroke only 32.4% of patients were eligible for rt-PA based on admission time. Out of these eligible candidates only 25.5% actually received the treatment. This study found similar safety standards as those identified in the NINDS clinical trials. The study concluded that thrombolysis is currently a necessity in improving the quality of stroke care in Canada.

Perfusion CT in acute stroke: prediction of vessel recanalization and clinical outcome in intravenous thrombolytic therapy.

Kloska S et al. Eur Radiol. 2007;

Evaluated perfusion comotography as a predicator for vessel recanalization and stroke outcome in patients. The results demonstrated that ASPCET score applied to PCT has proven to be a better predicator of patient outcome following stroke than NECT.

Early Evaluation of Computed Tomography Findings in Acute Ischemic Stroke.

Marks, M et al. Stroke; 1999; 30: 389-392.

Assess the reliability to exclude treatment of stroke with IV rt-PA based upon CT findings of hypoattenuated brain-tissue volume. Study found that CT scans are sensitive, prognostic and a reliable indicator of the middle cerebral artery supplied territory-undergoing infarction.

Emerging therapies for acute ischemic stroke.

Sattin J et al. Am J Ther. 2007;14:291-98.

This article focuses on emerging therapies as a strategy for treatment of ischemic stroke. Among treatments discussed is IA thrombolysis, IV rt-PA,

mechanical thromboectomy as well as others. The article suggests that the larger the arsenal a physician has to treat stroke patients, the better the outcome of the patient.

High Rate of Complete recanalization and dramatic clinical recovery during tPA infusion when continuously monitored with 2 MHz transcranial doppler monitoring.

Alexandrov, A et al. Stroke 2000; 31:610-614.

Clot dissolution using IV rt-PA in ischemic stroke patients can lead to early clinical recovery. Transcranial Doppler (TCD) with low MHz frequency can monitor clot dissolution and possibly potentiate its effects. This study focused on the possibility of synergistic effects of monitoring patients who have received rt-PA with TCD. The study found that TCD may expose more clot surface to rt-PA and thus aid in the clot dissolution and may potentiate the effects of rt-PA.

Early Magnetic Resonance Imaging Prediction of arterial recanalization and late infarct volume in acute carotid artery stroke.

Hermier, M et al. Journal of Cereb Blood Flow and Metabolism 2003; 23:240-248.

This study investigated the hypothesis that diffusion and perfusion-weighted imaging (DWI, PWI) can predict early recanalization of patients receiving IV rt-PA. Investigators found that both DWI and PWI provide relevant predicative information on stroke outcome.

Rate, degree, and predictors of recovery from disability following ischemic stroke. Hankey G et al. Neurology. 2007;68:1583-87.

This study assessed the rate, degree and predictors of recovery following an ischemic stroke. The study found that at 18 months 66% of moderately disabled, 43% of severely disabled, and 17% of very severely disabled patients recovered from the ischemic stroke.

Mortality of stroke patients treated with thrombolysis: Analysis of a nationwide inpatient sample.

Dubinsky R et al. Neurology 2006;66:1742-1744.

Analyzed the mortality rates of patients who received IV rt-PA in a clinical setting. The study noticed that in the community there are higher mortality and symptomatic intracerebral hemorrhage following administration of rt-PA.

Using tPA for acute stroke in a rural setting.
Edwards L et al. Neurology. 2007;68:292-94.

This article is a stage IV trial and documentation of the use of IV rt-PA in a rural setting. The authors explain that the use of IV rt-PA is beneficial even in a rural setting as long as physicians follow the protocol recommended for its use.

The Use of Intravenous Recombinant Tissue Plasminogen Activator in Acute Ischemic Stroke.
Kahn J et al. J Emerg Med. 2005;29:273-77.

This study focused on identifying the frequency with which IV rt-PA is used in a clinical setting and the outcome of patients who received and did not receive treatment. The study concluded that stroke patients rarely receive rt-PA despite its proven effectiveness. The authors also suggest that the obstacles to successful administration can be overcome if hospitals commit to providing rt-PA to appropriate patients.

Use of Tissue-type Plasminogen Activator for Acute Ischemic Stroke: The Cleveland Area Experience.
Katzan I et al. JAMA. 2000;283:1151-58.

The rate of use of rt-PA in Cleveland clinics and the reasons why patients were excluded from receiving treatment was studied. The authors found that only 15% of patients were admitted to the emergency room within the three-hour time window necessary for rt-PA therapy. They also found patients who had no contraindications for treatment with rt-PA were still only treated by such means 50% of the time. Physicians often disagreed or were unfamiliar with the guidelines by which to administer rt-PA to eligible candidates.