Community Hospitals Within a Regional Stroke Network can Safely Administer Intravenous Recombinant Tissue Plasminogen Activator (IV r-tPA) in Acute Ischemic Stroke

Paul A. Hansen, MD; Alexander Venizelos, MD; Abhi Pandhi, MBBS; Ryan Gianatasio, MD; Debbie Roper, RN MSN; Alexander Roland, RN; Jeff Coulson, RN; Scott Robins, MD; Vallabh Janardhan, MD

Texas Stroke Institute, HCA North Texas Division, Dallas-Fort Worth Metroplex, Texas

INTRODUCTION

Despite FDA approval in 1996, the use of IV r-tPA in acute ischemic stroke remains relatively low (3-4%) partly because of the concerns for symptomatic in cerebral hemorrhage (6-12%).

METHODS

A Comprehensive Stroke System of Care was developed in 2010, which included 9 certified stroke centers (Figure 1):

- Standardized ED algorithms were implemented and stroke coordinators tracked protocol violations. ED physicians administered IV r-tPA with vascular neurology expertise via Telephone or via Camera. IV r-tPA usage was identified based on procedure codes for intravenous thrombolytic administration on inpatient hospital discharges from 2008 to 2012. Symptomatic intra-cerebral hemorrhage was defined based on the ECASS criteria.

RESULTS

- 6,311 patients were hospitalized with acute ischemic stroke from 2008-2012 in our Regional Stroke Network
- 902 ischemic stroke patients were seen in 2008
- 1,492 ischemic stroke patients were seen in 2012

Figure 2 – rate of IV-tPA administration and symptomatic ICH in acute ischemic stroke in 2008 and 2012

CONCLUSIONS

- Community hospitals within a regional stroke network can safely administer IV r-tPA with low rates of symptomatic in cerebral hemorrhages comparable to the results of controlled clinical trials
- The implementation of standardized stroke algorithms and a tele-stroke network improved tPA administration and symptomatic hemorrhage rates in our Regional Stroke Network

REFERENCES
