AANS/CNS Joint Cerebrovascular Annual Meeting
January 22–23, 2018
Los Angeles, CA

Functional Outcomes after Minimally Invasive Endoscopic Evacuation of Thalamic Intracerebral Hemorrhage

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Introduction

Intracerebral hemorrhage (ICH) is the most devastating form of stroke for which there are few therapeutic options. Multiple randomized clinical trials have produced positive results in favor minimally invasive surgery (MIS) for ICH evacuation. There is controversy in the literature whether or not patients with thalamic ICH have worse outcome compared to patients with supratentorial ICH in other locations. Here we present long term functional outcome of patients presenting with thalamic ICH who underwent minimally invasive endoscopic ICH evacuation.

Methods

Retrospective analysis was performed on thalamic ICH patients who were treated with MIS endoscopic evacuation in the Mount Sinai Health System from January 2016 to April 2018, a total of 15 patients. Cases were performed exclusively in the angiography suite, using the Penumbra Apollo or Artemis aspiration devices (Penumbra Inc, Alameda, California). Hemorrhage volumes were calculated using the ABC/2 method.

Results

Clinical data was available for all 15 patients (8 female; mean age 61 ± 12.7 years). All patients presented with initial ICH score of 3 or less; 3 patients had baseline mRS >0. Mean hematoma size was 34.1 ± 31.3 cc.. Six patients presented with concurrent IVH. Average evacuation percentage was 84.4% ± 14.6% and average length of stay was 36 ± 33 days. Long-term follow up revealed that 13.3% of patients scored 0-3 on mRS at 6 months, 73.3% patients scored 4-5 at 6 months, and 13.3% of patients had expired at 6 months (mRS 6).

Conclusions

These preliminary data suggest that long-term functional outcome in patients presenting with thalamic ICH treated by minimally invasive endoscopic ICH evacuation remain poor. More comprehensive and prospective studies are necessary to elucidate the relationship between hemorrhage location and effect of MIS for ICH evacuation.

Learning Objectives

Intracerebral hemorrhage is a devastating disease with few treatment options.

Minimally invasive endoscopic intracerebral hemorrhage is a promising treatment option with favorable long term functional outcomes.

References