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Image-guided minimally invasive evacuation of intracerebral hematoma: A matched cohort study comparing endoscopic and tubular exoscopic systems

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Disclosures

None
Novel image-guided minimally invasive techniques to evacuate intracerebral hematoma represent a promising new avenue in the management of this disease entity. To our knowledge, a direct comparison of the endoscopic Penumbra Apollo and tubular Nico BrainPath system has not yet been performed.
Methods

A retrospective review of consecutive image-guided minimally invasive operations on intracerebral hematomas or other intracranial pathologies performed at one academic institution in the United States between July 2015 and July 2017 was performed. Cases of intracerebral hematomas performed with the Apollo and BrainPath system were matched in a stepwise fashion based on age, gender, hematoma location and laterality, and volume.
Results

Twenty-four patients underwent surgery using either of the 2 minimally invasive surgical systems and 5 cases in each group were matched for age, gender, hematoma location and laterality, and volume. Median time from symptom onset to evacuation was 2 days with a mean distance from brain surface to clot of approximately 40 mm in both groups. Both techniques achieved comparable clot evacuation. The functional outcome was poor with either technique with most patients dependent or dead at last follow-up.
Conclusions

In the present small matched cohort study, both Apollo and BrainPath techniques achieved satisfactory clot evacuation. Nevertheless, functional outcome in this patient population remains poor in most cases and case selection and identification of a subgroup of patients that will benefit from surgical evacuation remains elusive.