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Concomitant Decompressive Craniectomy and Aneurysmal Treatment in MCA Aneurysmal Rupture Associated with Large Intracerebral Hematomas

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Introduction

The literature remains inconclusive regarding the treatment of poor-grade middle cerebral artery (MCA) subarachnoid hemorrhage presenting with intracerebral hemorrhage with associated mass effect. The utility of decompressive craniectomy combined with hematoma evacuation and MCA aneurysmal occlusion as an efficacious treatment modality has shown improval in overal mortality.

Objective

We report our treatment paradigm and outcomes with decompressive craniectomy in a subset of patients presenting with subarachnoid hemorrhage from MCA aneurysms with associated para-Sylvian hematomas

Methods

Between 2005-2015, 14 patients with SAH/ICH from ruptured MCA aneurysms received either surgical or endovascular treatment and concomitant fronto-temporal-parietal decompressive craniectomy with delayed cranioplasty. Demographic, clinical, outcome, and radiological data of these patients were reviewed retrospectively.

Results

Mean age was 61.6 years. Median HH and WFNS grades were 3 and 3. Seven patients required external ventricular drains. 75% of the hematomas were right sided. Median Modified Fischer Grade was 3. Hematomas were temporal in 70%. Mean hematoma volume was 17.3 ml. Mean size of MCA aneurysms was 8.07 mm. Mean hematoma volumetric evacuation rate was 55.6 %. Concomitant decompressive craniectomy and delayed cranioplasty were performed in 100% of the cohort. 92.3 % of aneurysms were clipped; 7.7 % were coiled. Mean time to cranioplasty was 37 days. 42% required shunting. At a mean follow-up of 30 months, 69.2

Conclusions

Decompressive craniectomy can be performed safely for a subcategory of MCA aneurysms that present with para-Sylvian hematomas. Our data supports the hypothesis that adjunctive decompressive craniectomy may be associated with good or excellent outcomes in a carefully selected subset of patients with MCA aneurysmal SAH treated with either endovascular or microsurgical modalities.

Learning Objectives

By the conclusion of this session, participants should be able to understand the treatment paradigm and outcomes for patients presenting with SAH from MCA aneurysms with associated para-Sylvian hematoma who undergo decompressive craniectomy.

References

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