

Hybrid Surgery Management of Giant Hypervascular Tumors: Intraoperative Endovascular Embolization with Microsurgical Resection

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Introduction

Giant hypervascular intracranial tumors represent a formidable challenge as their size limits surgical control of the blood supply and debulking poses the risk of critical blood loss. Embolization facilitates resection but carries the risk of life-threatening tumor infarction, hemorrhage, or swelling if performed preoperatively. Endovascular intraoperative embolization avoids the fatal risk and allows the surgeon to attend instantly if any complication occurs.

Methods

We report two cases in which intraoperative embolization following the completion of the craniotomy was combined with microsurgical resection in the hybrid operating room to treat giant, hypervascular tumors.

Results

In each case giant, hypervascular tumors were safely and successfully removed with excellent results.

Conclusions

Intraoperative embolization facilitates the safe resection of giant hypervascular tumors and mitigates the consequences of potential tumor infarction, hemorrhage, or swelling from embolization. These cases exemplify the benefits of combining expertise in endovascular and microsurgical techniques with the capabilities of modern hybrid operating rooms allowing for their simultaneous application.

Learning Objectives

By the conclusion of this session, participants should be able to 1. understand the benefits of the strategy of intraoperative embolization for giant, hypervascular tumors 2. understand the risks of preoperative embolization in these patients 3. understand which patients this technique best applies to

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