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

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Introduction

Giant hypervascular tumors represent a formidable challenge as their size limits surgical control of the blood supply and debulking poses the risk of life-threatening blood loss. Embolization can facilitate resection but carries the risk of tumor infarction or hemorrhage and if done preoperatively can lead to herniation. Intraoperative embolization helps to avoid this potential risk.

Methods

We report two cases in which combining intraoperative embolization with microsurgical resection in the hybrid operating room was used to successfully remove giant, hypervascular tumors.

Results

Tumor embolization is a valuable tool in devascularizing hypervascular tumors facilitating their safe resection. The potential complications of tumor hemorrhage or infarction following embolization is heightened when dealing with giant tumors due to the risk of herniation. Combining expertise in endovascular and microsurgical technique simultaneously using a modern hybrid operating room optimizes the management of challenging giant, hypervascular tumors.

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

1. describe the benefit of intraoperative embolization for giant hypervascular tumors

2. describe the importance of combining endovascular and microsurgical techniques

3. illustrate and example of optimizing the value of the hybrid operating room

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