Mediastinal tumor

Of all anterior mediastinal tumors, 15-20% are germ cell tumors of which approximately 50% are benign teratomas.

Resection of posterior mediastinal tumors may be complicated by bleeding or neurologic injury. Preoperative spinal angiography of mediastinal tumors has been underreported or not commonly practiced. This study evaluates the selection criteria and outcomes of patients with posterior mediastinal tumors who undergo preoperative angiography and embolization.

Single-institution retrospective study of patients with posterior mediastinal tumors from 2002-2016. Multi-level spinal angiography was performed with or without selective arterial embolization of vascular supply in patients selected by thoracic or neurologic surgeons.

Ten (11%) of 87 patients with posterior mediastinal tumors underwent preoperative angiography. A mean of 11 (range 2-25) arteries were studied. Embolization in 7 of 10 patients successfully occluded 1 to 3 arteries. There was no significant difference in age, gender, BMI, ASA class, operative time, operative blood loss, complications or mortality between patients with or without angiography. Patients who underwent angiography had larger tumors (1490 vs. 97 cm3, $p<0.0001$), involvement of the neuroforamen (44% vs. 10%, $p<0.05$) and longer hospital stay (9 vs. 4.5 days, $p<0.05$). Angiography was complicated in 1 patient by vocal cord ulceration after intubation of a tumor-compressed trachea. Shared blood supply between tumor and spinal cord precluded embolization and tumor resection in 1 patient. Utilization of angiography increased over time.

Selective preoperative angiography for evaluation of posterior mediastinal tumors identifies arterial variations, threatened spinal arteries and targets for embolization. The specific role of angiography and embolization requires further investigation to standardize indications and protocols for number of arteries examined [1)].

1)
Madariaga ML, Borges LF, Rabinov JD, Chang DC, Lanuti M, Mathisen DJ, Gaissert HA. Angiography Before Posterior Mediastinal Tumor Resection: Selection Criteria and Patient Outcomes. Ann Thorac Surg. 2018 Jan 23. pii: S0003-4975(18)30047-X. doi: 10.1016/j.athoracsur.2017.12.028. [Epub ahead of print] PubMed PMID: 29373823.

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