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SP 5. A RARE CASE OF AN INVASIVE ANTERIOR MEDIASTINAL TERATOMA

Presenter: Kurt Piening | University of Illinois, Peoria
K Piening, A Mowrer, A Awwad, R Anderson

Background: Teratomas are a subset of germ cell tumors that represent 10-15% of anterior mediastinal masses. Composed of at least two germ layers, the majority of teratomas are mature, benign, and histologically well-defined. The standard of care for mediastinal teratomas is surgical resection due to unusual but severe potential complications of airway compromise, tissue invasion, and perforation. In cases in which total removal is not possible, subtotal resection can also lead to symptomatic relief and allow for long-term survival.

Case Description: A 22-year-old female presented with shortness of breath and chest wall pain. Imaging revealed a 9.1 cm anterior mediastinal mass containing fat and calcification causing compression of the right atrium. The patient had a right thoracotomy and two masses were identified. Both masses contained a caseous substance, hair, and multiple tissue types consistent with a teratoma. The inferior mass was removed with a small segment of the right middle lobe and diaphragm. The superior mass was identified invading the right atrium and circumferentially encasing the superior vena cava. A safe resection was not possible so a debulking removing a large portion of the mass and associated pericardium en bloc was performed. Final pathology confirmed a mature cystic teratoma. The patient was reviewed in a multidisciplinary tumor board and a plan was developed for proton therapy.

Discussion: This patient had a rapidly enlarging mediastinal mass with risk of perforation, superior vena cava syndrome, or intravascular invasion necessitating surgical resection. While there have been few case reports identifying involvement of major structures such as the superior vena cava, pericardium, or diaphragm, a standard of care has yet to be identified due to the rare nature of this dilemma. Upon intra-operative evaluation, an adjustment in the best treatment plan for the patient was necessary. This scenario helps to demonstrate safe debulking of a mature teratoma in a complicated anatomic position followed by proton therapy. We hope to contribute to the literature to provide the surgeon with demonstration of safe practices with no known increase in morbidity or mortality when presented with this unusual clinical scenario.

