AN UNBEARABLE TOOTHACHE: DESCENDING NECROTIZING MEDIASTINITIS FROM A DENTAL ABSCESS

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INTRODUCTION: This case demonstrates a dangerous complication of dental abscess.

CASE PRESENTATION: A thirty-two-year-old man without any medical history was admitted to a general medicine service for a dental abscess which required tooth extraction and washout. He was discharged on oral clindamycin but returned that evening after development of chest pain. He was hemodynamically stable but refused to lay flat due to pain and dyspnea. He was started on IV vancomycin, ceftriaxone, and clindamycin. Overnight he developed significant respiratory distress requiring intubation and transfer to the MICU. He had pneumonia and severe ARDS requiring paralytics and proning. He was persistently febrile despite broadening antimicrobials. Cardiothoracic surgery urgently operated after a CT demonstrated large, partially loculated, mediastinal, pericardial, and pleural effusions. He received drainage of an oropharyngeal abscess as well as a drainage tube of the anterior mediastinum and bilateral tube thoracostomies. OR cultures grew Strep anginosus, Prevotella sp., and Staph epidermidis. Further washout with VATS was never feasible due to inability to ventilate on one lung.Ten days into his hospitalization he developed hyperkalemia and oliguric renal failure which required CRRT. After twenty-two days of being intubated, tracheostomy was performed, and he tolerated gradual ventilator weaning. He was transitioned to intermittent hemodialysis and was transferred to the medical floor to begin rehabilitation and trach collar trials. After nine weeks of hospitalization he was discharged to inpatient rehabilitation and was able to be decannulated from his tracheostomy tube. His renal function recovered. He was discharged from rehabilitation after eight days. In follow-up, he has remained well other than CKD stage 3.

DISCUSSION: Descending necrotizing mediastinitis is a progressive polymicrobial complication seen in roughly 20% of cases of acute mediastinitis. The most common pathogens are aerobic gram positive and anaerobic microbes followed by gram negative bacilli. The diagnostic modality of choice is CT over clinical suspicion or simple radiography. Two main varieties are described: type I which occurs above the tracheal bifurcation and type II which occurs below the tracheal bifurcation. The mortality rate in type I is roughly 10% compared to 31.5% in type II. Type I is typically able to be managed via transcervical drainage while type II generally requires urgent thoracotomy with transcervical debridement.

CONCLUSIONS: This case of a young, otherwise healthy patient with type II descending necrotizing mediastinitis demonstrates the need for correct and timely diagnosis, urgent cervical debridement, and broad-spectrum antibiotics. Even with appropriate therapy this was a near fatal case with significant morbidity. Quick and decisive action is critical if mediastinitis is suspected as is highlighted in this patient.


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