CASE REPORTS

Descending Necrotizing Mediastinitis: Treatment by Transcervical Thoracic Drainage

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We report the case of a 29-year-old man with descending necrotizing mediastinitis and subcarinal spread secondary to oropharyngeal infection. The thoracic infection was treated by placement of a transcervical thoracic drain, which was removed 15 days after surgery. The outcome was satisfactory and no further invasive treatment was required. We believe that transcervical thoracic drainage is a useful initial treatment for descending necrotizing mediastinitis with subcarinal spread but no pleural cavity involvement.

Key words: Descending necrotizing mediastinitis. Transcervical mediastinal drainage. Peritonsillar abscess.

Introduction

Today, infectious mediastinitis is usually seen as a complication of sternotomy in cardiothoracic surgery or, less often, as a complication of oropharyngeal infection. Acute mediastinitis that arises from an oropharyngeal infection was termed descending necrotizing mediastinitis by Estrella et al. in 1983. It is a very rare entity that is clinically important because of its high rate of mortality, which ranges from 14% to 50% in different reports. The flora responsible for this condition are usually a mixture of aerobic, anaerobic, gram-negative and gram-positive pathogens that act synergistically. Surgical treatment is controversial—whether it be by cervicotomy and conservative measure of transcervical thoracic drainage suggested by others. In the case we report, transcervical thoracic drainage was applied.

Case Description

The patient was a 29-year-old man whose most relevant medical history was that he was a smoker (1 pack/day). The patient presented with a sore throat that was diagnosed as purulent tonsillitis and treated with amoxicillin and ibuprofen. After 9 days pain had increased, swallowing caused pain, and fever was 38.5°C. Leukocytosis (20 000 cells/µL; 86% neutrophils) developed and his general condition had deteriorated, with hypotension, and oliguria. He was admitted to the intensive care unit with septic shock. The oropharynx was normal, without asymmetry, upon inspection through a fiberoptic laryngoscope. Cervical palpation was also normal. A computed tomography scan revealed peritonsillar tumors to the left with ectopic gas bubbles and retropharyngeal spread to the infrathyroid musculature and the left periesophageal region behind the mediastinum, along with a small bilateral pleural effusion and regions of alveolar consolidation in both lower lobes. The patient was stabilized with intravenous cardiotoxic therapy and broad-spectrum antibiotics (penicillin G, ciprofloxacin, clindamycin, and piperacillin-tazobactam). Enterobacter cloacae, Acinetobacter baumannii, Enterococcus faecalis, and Staphylococcus haemolyticus were isolated in sputum culture andEscherichia coli in fluid drained from the abscess. Given the slow response to medical treatment, 4 days after admission to the intensive care unit a surgical procedure was scheduled. A Y-shaped incision was made on the left side of the neck and the left prelaryngeal muscle fascia were debrided. Abundant purulent material was evacuated from deep inside the prelaryngeal musculature and 2 Penrose drains were placed there, in addition to a thoracic drain (a number 16 Nelaton catheter) posterior to the mediastinum by way of digital dissection. The thoracic drain was gradually withdrawn and finally was fully removed 15 days after surgery. During the course of treatment, it was necessary to give a transfusion because of digestive tract bleeding, which was treated by endoscopic sclerosis in the second duodenal segment. The patient was discharged after 22 days.
computed tomography scan can be useful. The chest tube is important to monitor the amount of fluid drained and a easily drained transcervically. During follow up, it is necessary to take chest radiographs daily to determine whether or not there is pleural effusion, how rapidly the fluid amount is increasing or decreasing, and the amount of pleural effusion. A sterile physiological saline or a diluted antiseptic solution is gradually removed as drainage diminishes. Lavage with physiological saline or a diluted antiseptic solution is sometimes useful to prevent the drainage tube from becoming obstructed. Once cultures of drained fluid are negative and the amount of fluid removed is scant, the tube can be withdrawn. Simple chest radiographs taken daily indicate whether or not there is pleural effusion, how much there is, and if it increases or not. Accordingly, and in keeping with analytical results and clinical picture, other treatment approaches such as thoracotomy with aggressive debridement can be adopted if necessary.

We conclude that descending necrotizing mediastinitis with subcarinal spread secondary to an oropharyngeal abscess can be effectively treated by transcervical thoracic drainage. When subcarinal mediastinitis presents without compromise of the pleural cavity, initial conservative treatment by this means is appropriate.

**REFERENCES**