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 Estrera 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 mediastinal drainage. Peritonsillar abscess.

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 subacute 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 infrayoid 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 cardiotonic therapy and broad-spectrum antibiotics (penicillin G, ciprofloxacin, clindamycin, and piperacillin-tazobactam). Escherichia coli, Acinetobacter baumannii, Enterococcus faecalis, and Staphylococcus haemolyticus were isolated in blood culture. Serratia marcescens was identified in sputum culture and E. 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.

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Computed tomography scan can be useful. The chest tube is important to monitor the amount of fluid drained and a abscess of descending necrotizing mediastinitis can be mediastinal infection, as occurred in our patient. The pleural effusion may develop in response to the cervicotomy and thoracotomy, given the high mortality rate associated with this infection. Others, however, consider that transcervical drainage, as was applied in the case we report, can provide good results. The mediastinum has no ceiling that isolates it from the anatomical communication between those regions and the fascia of the neck muscles; moreover, the upper part of the mediastinum has no ceiling that isolates it from the neck. Negative intrathoracic pressure and gravity also facilitate the descent of infection to the mediastinal region. A diagnosis of descending necrotizing mediastinitis requires immediate response in the form of initiation of broad-spectrum antibiotic therapy because mixed polymicrobial flora are usually present. The correct surgical approach is currently being disputed. Some authors defend drainage of the abscess by transcervical approach. When subcarinal mediastinitis presents without compromise of the pleural cavity, initial conservative treatment by this means is appropriate.

**REFERENCES**