Severe Laryngotracheal Involvement in a Case of Rhinoscleroma Due to *Klebsiella pneumoniae* Subspecies *ozaenae*

To the Editor: Rhinoscleroma is a chronic infectious disease that progresses slowly and is confined to the nose. Caused by *Klebsiella pneumoniae* subspecies *ozaenae*, a gram-negative bacillus, it affects the nasal mucosa and progresses from a catarrh-producing phase with nonspecific inflammation to a proliferative, granulomatous phase, and then to a cicatricial phase. The scleroma may spread to another portion of the respiratory tract and thus lead to the most serious complication of the disease—life-threatening obstruction of the airways.[1-3] We report the case of a patient with severe laryngeal involvement and tracheobronchial extension of the rhinoscleroma.

A 27-year-old Romanian man who smoked 5 cigarettes per day and had been living in Spain for 5 years was admitted to the emergency department with dyspnea at rest. The patient reported nasal obstruction, progressive dyspnea, dysphonia, and abundant purulent, foul-smelling nasal secretions that had started 2 months earlier. Physical examination revealed dyspnea at rest with laryngeal stridor; the patient did not have fever, and heart and lung sounds were normal. The nostrils contained green secretions and crusts that obstructed the view of the mucosa. Computed tomography of the paranasal sinuses showed involvement of the left maxillary sinuses. The chest x-ray was normal and computed tomography of the cervical and thoracic regions showed involvement of the vocal cords and a scalloped appearance of the trachea. Blood counts and coagulation, biochemistry, and autoimmune markers were normal. Bronchoscopy showed inflammation of both the vocal cords and the subglottic region, and white papillary lesions with black crusts and green secretions throughout the entire length of the trachea. The pathologic findings on examination of the lesions were of a mixed inflammatory infiltrate containing abundant bacteria. Bacteriologic culture of the exudate, nasal biopsies, bronchoalveolar lavage fluid, and bronchial aspirate in chocolate agar, MacConkey agar, and blood agar identified *K pneumoniae* subsp *ozaenae* using the Vitek 2 system (BioMérieux, Castellón, Spain). When the infection was resistant to ampicillin and nitrofurantoin, ciprofloxacin and cefuroxime were prescribed and continued for 2 months; bronchoscopy was then repeated and revealed diffuse, irregular sclerotic areas throughout the trachea. *K pneumoniae* subsp *ozaenae* resistant to cephalosporins and ciprofloxacin was again isolated in the nasal exudate, bronchial aspirate and bronchoalveolar lavage fluid. Treatment was changed to trimethoprim-sulfamethoxazole and inhaled tobramycin for 1 month (based on the antibiogram) and the trimethoprim-sulfamethoxazole was maintained until cultures became negative.

Ozena first affects the mucosa and progresses to form scars. It is endemic in various places around the world (Central America, Central Europe, Africa, and Asia). Its prevalence has risen in recent years due to increased immigration from endemic to nonendemic countries. Cases in which the disease extends to the lower respiratory tract, however, are rare. The most feared complication of the disease is airway obstruction due to the cicatricial stenosis. A review of the literature shows that little has been published on this disease.

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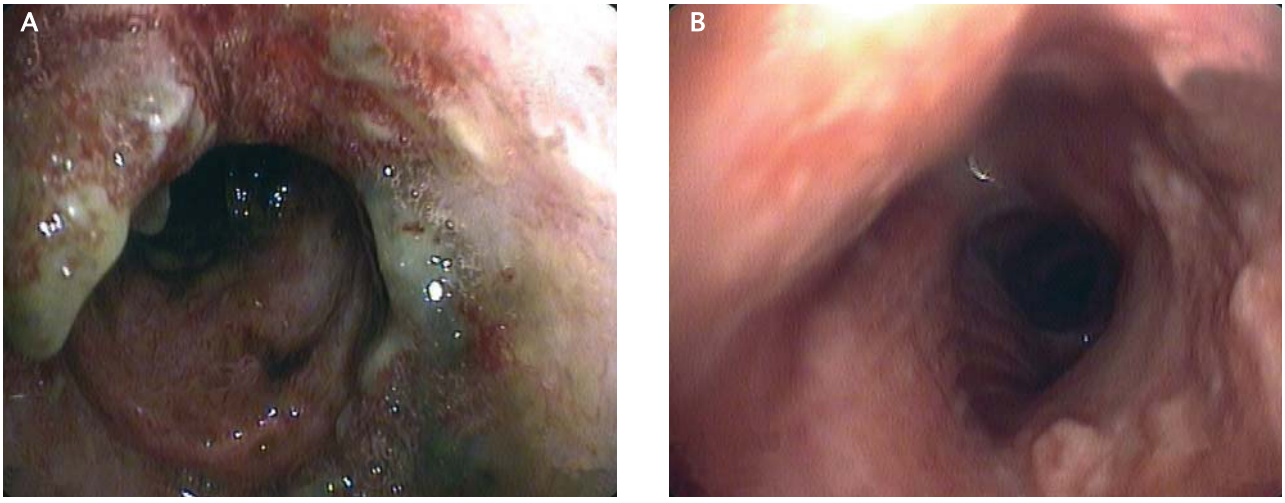

Figure 1. A: Tracheal involvement in an infection due to *Klebsiella pneumoniae*. B: Laryngeal involvement in an infection due to *Klebsiella pneumoniae.*