Pneumonitis and Pulmonary Abscess Associated with Moraxella nonliquefaciens*

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A 78-year-old man with pneumonitis and pulmonary abscess associated with Moraxella nonliquefaciens is presented. This organism was found by culture of both transtracheal aspirate and sputum. No previous reports have associated M nonliquefaciens with infection of the lower respiratory tract, although sinusitis and bronchitis have been reported. Possible predisposing factors in our patient included carcinoma of the larynx, as well as alcohol ingestion and cigarette smoking.

Organisms of the genus Moraxella are a rare cause of clinical infection. These organisms have been associated with bronchitis, sinusitis, conjunctivitis, bacteremia, meningitis, endocarditis, and pericarditis.1-4 Although Moraxella spp may be found in the upper respiratory tract of asymptomatic individuals,5 no reports have yet associated them with pulmonary parenchymal infection. We have recently cared for a patient with pneumonitis and pulmonary abscess associated with Moraxella nonliquefaciens.

CASE REPORT

A 78-year-old man was admitted to the hospital with complaints of a cough productive of one-half to one cup of light brown, nonpurulent sputum daily for two months, increasing exertional dyspnea, and an 11 kg (25 lb) weight loss over the previous six months. The patient denied shaking chills, night sweats, and fever. Hoarseness was noted for several months prior to admission. The patient had had pneumonia of unknown etiology 22 years prior to the present admission; he had smoked one or two packs of cigarettes per day for 50 years and consumed six to eight cans of beer per day for the last ten years.

Physical examination revealed blood pressure of 110/60 mm Hg, pulse rate of 110 beats per minute, a respiration rate of 25/min, and oral temperature of 37.2°C (99°F). Examination of the chest revealed a slight increase in the anteroposterior diameter, use of accessory respiratory muscles, increased tactile fremitus over the left base, and rales at the left base posteriorly and laterally. Acrocyanosis was present. Initial laboratory studies revealed the following values: hemoglobin, 10.8 gm/100 ml; hematocrit, 39.4 percent; and white blood cell count, 25,400/cu mm, with 77 percent neutrophils, 14 percent band forms, 6 percent lymphocytes, and 3 percent monocytes. An arterial blood gas determination with the patient breathing room air disclosed a pH of 7.50, arterial oxygen pressure (PaO2) of 49 mm Hg and arterial carbon dioxide tension of 37 mm Hg. Chest roentgenogram revealed diffuse pneumonitis in the left lower lobe, with consolidation of the superior segment of the left lower lobe (Fig 1). Gram-stain of a transtracheal aspirate showed both gram-negative diplobacilli and gram-positive cocci in clusters and pairs associated with polymorphonuclear leukocytes. A transtracheal aspirate was obtained after the injection of 5 ml of physiologic saline solution without bacteriostatic preservatives and was submitted to the laboratory in an evacuated capped syringe. Cultures of both this transtracheal aspirate and of the expectorated sputum grew only M nonliquefaciens. Identification was confirmed by the Missouri Division of Health, Bureau of Laboratory Services. Cultures of the transtracheal aspirate for anaerobic bacteria and of both the transtracheal aspirate and expectorated sputum for mycobacteria and fungi were negative, as were blood cultures.

The patient was treated initially with ampicillin sodium (1 gm intravenously every six hours), oxygen therapy by nasal cannula, aerosolized bronchodilator drugs, and chest physiotherapy. After initiation of therapy, the patient showed steady improvement, as evidenced by improvement in the PaO2 and clearing of the pneumonitis on a chest roentgenogram; however, a repeat chest roentgenogram on the eighth day of hospitalization revealed a new infiltrate in the right lower lobe and cavity formation with air fluid level in the area of the previous consolidation on the left (Fig 2). Because the patient developed a rash two weeks after instituting therapy with ampicillin sodium, the therapy was completed with cephalaxin monohydrate (1 gm orally every six hours) for six weeks. A follow-up chest roentgenogram 44 days after admission revealed only fibrotic streaking in the region of the previous abscess cavity and complete resolution of the pneumonitis. Subsequent evaluation of the patient's hoarseness revealed an exophytic squamous cell carcinoma of the larynx with cervical invasion, necessitating tracheostomy and radiation therapy.

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negative diplobacillus which may grow in chains, oxidase-positive; it fails to grow on size, and resist decolorization. This organism is typically region of previous consolidation.

It is quite possible that an anaerobic coccus was an uncultured, but contributing, pathogen in the development associated with the development of pulmonary parenchymal infection.

Cigarette smoking, alcohol ingestion, carcinoma of the larynx, and finding mixed flora on gram-staining suggest that aspiration was the most likely source of our patient's infection. Moraxella nonliquefaciens may be a normal inhabitant of the upper respiratory tract and has been associated with both sinusitis and bronchitis. Our case suggests that this organism may also be associated with the development of pulmonary parenchymal infection.

**REFERENCES**


**Tag-Along Pacemaker**

Joel A. Tobias, M.D., F.C.C.P., and George R. Daicoff, M.D., F.C.C.P.

In an R-wave-inhibited pulse generator, an increased interval between pacing artifacts giving an apparently slow rate was not indicative of impending battery failure in two patients. The pacing artifacts appeared as a tag-along phenomenon following a slow idioventricular rhythm as the result of an exit block due to (1) hyperkalemia and (2) perielectrode fibrosis. Simple tests demonstrated a normally functioning R-wave sensing circuit and pacemaker.

In most currently available pacing systems, a slowing of the pacing rate is the clinical hallmark of impending failure from battery depletion. In a R-wave-inhibited (VV1) pulse generator, other common causes of apparent slowing have been documented, including sensed muscular potentials, electromagnetic interference, and partial recycling. We have observed two patients with a pulse generator which tagged along after a slow idioventricular rhythm, giving the spurious appearance of malfunction of the pulse generator.

**Case Reports**

**Case 1**

A 58-year-old woman was admitted for treatment of obstructive jaundice and was incidentally noted to have third-degree atrioventricular block with an idioventricular rate of 50 beats per minute. Prior to laparotomy, a transvenous pacing catheter was positioned in the right ventricle and connected to an R-wave-inhibited pulse generator (Medtronic 5942) which paced her heart at a rate of 69.3 beats per minute. The threshold was less than 1.0 ma, and sensing function was adequate. Following laparotomy, the patient experienced severe hepatorenal failure. On the 17th postoperative day, she was noted to be in an idioventricular rhythm with a heart rate of 45 beats per minute and the identical pacing rate with loss of capture (Fig 1A).

A magnet was applied over the pulse generator, and a normal pacing rate of 69.3 impulses per minute was noted, with failure to capture. The serum potassium level at this time was 7.3 mEq/L, and the blood pH was 7.30 with a base...