Perigastrostomy Infection Caused by *Mycobacterium abscessus* in an Immunocompetent Patient

Hsien-Yi Chiu[1], Kao-Lang Liu[2] and Yi-Hua Liao[1]*
*Departments of [1]Dermatology and [2]Medical Imaging, National Taiwan University College of Medicine and National Taiwan University Hospital, Taipei, Taiwan. *E-mail: yihualiao@ntu.edu.tw*
Accepted October 14, 2009.

Sir,

Mycobacterium abscessus, a rapidly growing mycobacterium (RGM), is an important environmental pathogen that can cause a broad spectrum of diseases. Foreign body-associated RGM infections are now receiving increasing emphasis because of the increased use of indwelling medical devices. Gastrostomy tube placement is a well-established and tolerated method to achieve feeding access in patients with dysphagia or aspiration. The gastrostomy tube may be placed surgically, endoscopically or fluoroscopically. Percutaneous radiological gastrostomy (PRG) is performed under fluoroscopic guidance for tube insertion. We present here a rare cause of perigastrostomal infection due to *M. abscessus* in an immunocompetent patient. This case highlights the importance of including RGM infection in the differential diagnosis of recalcitrant peristomal infection.

CASE REPORT

A 55-year-old man was admitted with a painful nodule surrounding the PRG port for the previous month. He had a medical history of nasopharyngeal carcinoma, which had been managed by operation and radiotherapy 20 years previously. No evidence of recurrence was noted and he had not received any treatment for cancer thereafter. Eight months prior to admission, fluoroscopically guided PRG was performed under amoxicillin-clavulanate coverage due to progressive dysphagia resulting from previous radiotherapy. The patient was in his usual state of health until one month before admission, when an erythematous, pigeon egg-sized, ill-demarcated, tender nodule with yellowish discharge and foul odour was noted around the gastrostomy site. Laboratory investigations revealed a leukocyte count of 14.2×10^9/l and an elevated C-reactive protein level of 6.76 mg/dl. Skin biopsy of the affected area demonstrated granulation tissue with acute and chronic inflammation. The acid-fast stain was negative. Cultures of the skin specimen for bacteria and fungi were negative. With suspected peristomal cellulitis, he was commenced on a 10-day treatment of intravenous amoxicillin-clavulanate, however, one week later, copious discharge of pus was observed from the biopsy wound (Fig. 1). Culture of the biopsy specimen yielded *M. abscessus*, which was also isolated from subsequent skin pus cultures in two sets. The antibiotic regimen was changed to clarithromycin (500 mg/day) and ciprofloxacin (1000 mg/day). After a 3-month treatment with antibiotics and without removal of the gastrostomy tube, the erythematous tender nodule disappeared.

Fig. 1. A pigeon egg-sized, erythematous nodule with copious discharge of pus from the biopsy wound near the gastrostomy site.

DISCUSSION

M. abscessus, a member of Runyon group IV, is the most pathogenic and chemotherapy-resistant RGM. In 1953, it is first isolated from synovial fluid in a patient with post-traumatic arthritis and gluteal abscess (1). Since the 1980s, *M. abscessus* and *M. chelonae* have generally been regarded as separate species. Clinically, it causes a wide range of diseases, including superficial or deep soft tissue infection, pulmonary diseases, endocarditis, keratitis, lymphadenitis, otomastoiditis, osteomyelitis and disseminated diseases (1, 2). Skin infections with RGM usually follow a traumatic injury and develop as localized abscess formation (2).

Due to the low virulence of RGM, overt infections in immunocompetent hosts are uncommon. RGM infections associated with foreign bodies (3) or other indwelling medical devices, including vascular catheters, peritoneal catheters, prosthetic valves, epicardial pacemaker wires, mammoplasty implants, orbital implants, and haemodialysers, have been reported rarely in the literature (1, 4, 5). The presence of a foreign body is believed to facilitate the infection by weakening the host defence mechanism (6).

Because of the growing number of patients with various underlying debilitating diseases who cannot take food orally, percutaneous gastrostomy has been employed widely with increasing frequency for providing nutrition. Peristomal infection occurs in approx-

 doi: 10.2340/00015555-0784
 ISSN 0001-5555

imately 5% of patients with PRG tube placement (7). Methicillin-resistant *Staphylococcus aureus* (MRSA) is the most commonly implicated organism in peristomal infection, but rare cases of RGM have been reported. A case of peristomal infection due to RGM has been reported (8). This 55-year-old man had a history of obstructive sleep apnoea and had had a tracheotomy for 14 years. He presented with a 10-month history of erythema, oedema and discharge around the tracheostomy site. Based on the histopathology and culture results, he was diagnosed as having cutaneous infection due to *M. chelonae* involving a tracheostomy stoma.

To our knowledge, our case is the first published report of perigastrostomy infection due to *M. abscessus* in the English literature. The present case demonstrates the importance of considering RGM as a pathogen of peristomal infection in an immunocompetent host, with percutaneous gastrostomy placement being a predisposing factor. Because RGM are resistant to conventional antibiotics and anti-tuberculosis drugs, it is important to recognize this specific group of pathogens. Early identification will allow timely susceptibility testing and appropriate therapy.

The authors declare no conflict of interest.

REFERENCES

1. Cutay AM, Horowitz HW, Pooley RW, Van Horn K, Wormser GP. Infection of epicardial pacemaker wires due to Mycobacterium abscessus. Clin Infect Dis 1998; 26: 520–521.
2. Petrini B. Mycobacterium abscessus: an emerging rapid-growing potential pathogen. APMIS 2006; 114: 319–328.
3. Trupiano JK, Sebek BA, Goldfarb J, Levy LR, Hall GS, Procop GW. Mastitis due to Mycobacterium abscessus after body piercing. Clin Infect Dis 2001; 33: 131–134.
4. Hansen TP, Sarma DP. Multiple subcutaneous nodules associate with Mycobacterium abscessus infection following removal of an infected Groshon vascular catheter tip. Dermatol Online J 2006; 12: 12.
5. Zuercher D, Malet T. Mycobacterium abscessus infection in a case of recurrent orbital implant exposure. Orbit 2007; 26: 337–339.
6. Linmans JJ, Stokroos RJ, Linssen CF. Mycobacterium abscessus, an uncommon cause of chronic otitis media: a case report and literature review. Arch Otolaryngol Head Neck Surg 2008; 134: 1004–1006.
7. Silas AM, Pearce LF, Lestina LS, Grove MR, Tosteson A, Manganiello WD, et al. Percutaneous radiologic gastrostomy versus percutaneous endoscopic gastrostomy: a comparison of indications, complications and outcomes in 370 patients. Eur J Radiol 2005; 56: 84–90.
8. Case records of the Massachusetts General Hospital. Weekly clinicopathological exercises. Case 33–1996. A 55-year-old man with a long-term tracheostomy and acid-fast bacilli in peristomal granulations. N Engl J Med 1996; 335: 1303–1307.