Clinical picture

Mycobacterium chelonae infection involving the auricle

A 30-year-old man presented with a left side diffuse erythematous nodular, nontender, ulcerated auricular and periauricular skin lesion with serosanguineous discharge (Figure 1) after bilateral cervical lymphadenitis, which did not respond to a 6-month antituberculous medical therapy (i.e. isoniazide, ethambutol, rifampin and pyrazinamide) for suspected extra-pulmonary Tuberculosis bacillus (TB) infection. A battery of workup, including serology tests of anti-HIV antibody, CD4/CD8 counts, rheumatoid arthritis factor, human leukocyte antigen-B27, antinuclear antibody, anti-extractable nuclear antigen, cytomegalovirus antibody, cryptococcal antigen, Toxoplasma antibody and Epstein–Barr virus antibody titers were performed but all revealed negative results. Magnetic resonance imaging (MRI) showed multiple abnormally enlarged lymph nodes in the bilateral neck and an infiltrative skin lesion over the left external auricle (Figure 2). Both left auricular skin and cervical lymph node cultures grew Mycobacterium chelonae. Intravenous imipenem, amikacin and clarithromycin were administered for 1 month before the susceptibility test was available. The regimen was shifted to oral clarithromycin and linezolid according to susceptibility test results. Six months later, the left auricular skin lesions and bilateral cervical lymphadenitis had resolved almost completely (Figure 3).

Mycobacterium chelonae is a rapidly growing nontuberculous mycobacterium belonging to Runyon group IV present in dust, soil and water. Mycobacterium chelonae infections afflicting every organ system have been described. However, infections involving the head and neck were rare. An array of head and neck infections caused by M. chelonae, including otitis media, mastoiditis, intraoral infection, sinusitis, cervical lymphadenitis, orbital cellulitis, endophthalmitis, facial cellulitis, postrhinoplasty cellulitis and thyroid abscess have...
been described. The most common clinical manifestation of *M. chelonae* infections is localized cutaneous and soft tissue infections. There are miscellaneous reports of infection after trauma and surgical or other procedures, including acupuncture, intravenous catheter use, pacemaker placement, liposuction, silicone injection, breast implantation, dermatologic surgery, pedicures and subcutaneous injections. The natural history of *M. chelonae* infections has been characterized by its slow healing and chronicity. In 10–20% of cutaneous infections, spontaneous resolution occurs in an average of 8 months. Most infections that are initially localized rarely disseminate.

Culture material often yields negative results on smear testing for acid-fast bacilli and granulomas may be caseating or noncaseating. The fact that rapid growing mycobacteria including *M. chelonae* are highly resistant to standard antituberculum agents has been well known. In addition, the resistance of *M. chelonae* to other antimicrobials such as ciprofloxacin, ofloxacin, doxycycline, sulfamethoxazole and erythromycin has been reported. Definitive diagnosis and selection of optimal therapy is dependent on tissue culture and sensitivity studies. Emerging resistance to antimicrobials in *M. chelonae* has been reported in recent years. The high variations in susceptibility confirm the needs for individualized antimicrobial regimens. For serious skin and soft tissue infections, a minimum of 4 months of a combination drug therapy (at least initially to minimize the risk of macrolide resistance) is mandatory to ensure a high likelihood of cure. Surgical intervention is generally indicated with abscess formation, extensive disease and where drug therapy is difficult. It should be included into the differential diagnosis of a chronic nonhealing skin lesion of the auricle. A high index of suspicion is the key to early diagnosis.

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**References**


