



CASE REPORT

Mycobacterium lentiflavum, an emerging pathogen?

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Summary Three cases of infection due to *Mycobacterium lentiflavum*, a recently described species characterized by multiple resistance to anti-mycobacterial drugs, are reported here. While one case simply adds to the number of cervical lymphadenitis reported in literature, the others concern the first isolations from pleural effusions, in a young boy with leukaemia and in an elderly patient with lung disease, respectively.

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*Mycobacterium lentiflavum*¹ is, among the newly described mycobacterial species, one of the most frequently detected in clinical specimens.^{2,3} The species is characterized by slow growth of tiny yellow colonies.⁴ Likewise other non-tuberculous mycobacteria (NTM), *M. lentiflavum* may infect humans and may even be responsible of disease, both in HIV-positive^{3,5} and -negative subjects.^{1-3,6-10} According to the reports of the literature the neck lymphadenitis of children is the most frequent pathology due to this organism.^{3,9,11-13} We report

here, along with a further case of cervical lymphadenopathy in a young boy, the first isolations from pleural fluid in a young patient with leukaemia and in an elderly man.

Case 1

A 18-month-old boy developed, in about 30 days, a submandibular lymphadenitis. Because of its suppurative evolution, demonstrated by two consecutive echographic scans, a surgical drainage was carried out and a necrotic lymph node was removed. Acid fast bacilli were seen in the pus while the PCR for *Mycobacterium tuberculosis* complex was negative. A scotochromogenic

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mycobacterium grew after 3 weeks of incubation in liquid medium and it was subsequently identified, with HPLC analysis of mycolic acids and with genetic sequencing of 16S rDNA, as belonging to the species *M. lentiflavum*. Three months later, because of the reappearance of swelling in the submandibular region, a new surgical intervention was performed. The three lymph nodes excised revealed, at the histologic examination, a granulomatous picture with giant cells and central necrosis. No relapse has developed so far.

Case 2

A foreign born (from Eastern Europe), 14-year-old, boy affected by acute lymphatic leukaemia was hospitalized because of fever, chest pain and respiratory insufficiency while presenting postchemotherapy bone marrow aplasia. The first X-ray revealed right pleural effusion while a subsequent TC scan showed an increase of basal parenchyma, pneumothorax, bilateral pleural effusion and multiple micro-nodules in apical and median right lobes. Pleural fluid and gastric juice were cultured for mycobacteria, bacteria and fungi. Acid fast bacilli were seen in the pleural fluid and PCR for *M. tuberculosis* complex was negative. Four weeks later a liquid culture scored positive for *M. lentiflavum* (identified by genetic sequencing of 16S rDNA). After 5 months of anti-mycobacterial treatment with clarithromycin, amikacin and ceftriaxone three micro-nodules only were visible by TC scan.

Case 3

An 87-year-old male, previously miner and smoker, was first hospitalized because of bilateral pleural thickening and left pleural effusion. A thoracentesis produced about 1200 ml of a citrine fluid which, aerobically cultured, did not grow any organism; negative were also acid-fast microscopy and PCR for *M. tuberculosis* complex. After an empiric treatment with levofloxacin had been undertaken the man was discharged. About 3 weeks later, a checkup TC scan revealed the increase of the pleural effusion and multiple pulmonary opacities. At that time the pleural fluid culture for mycobacteria, undertaken during the hospitalization, became positive for a scotochromogenic strain which was subsequently identified, using commercial DNA probes (GenoType Mycobacterium, Hein, Germany), as

M. lentiflavum. The treatment was changed consequently to clarithromycin, levofloxacin and rifabutin. One month later pulmonary opacities had disappeared while pleural effusion was unchanged.

The present one is the sixth reported case of cervical lymphadenitis,^{3,8,11-13} among which also one concerning an immunocompetent adult⁸ is included. The clinical picture is quite similar being usually characterized by unilateral swelling and, in many cases, by fistulization. As a rule, in such pathologies the healing is achieved only once the involved lymph nodes have been surgically excised.

Scanty is, in contrast, the documentation of the pathologic role of *M. lentiflavum* in other body sites. The cases involving the respiratory apparatus are limited to two tuberculosis-like infections in elderly patients^{3,10} and to one isolation, whose significance is, however questionable, from a patient with doubtful diagnosis.⁶ The present isolations from pleural fluids seems to fulfill the ATS criteria as the strains were grown from an otherwise sterile district and no other possible responsible of disease was detected.¹⁴ Furthermore, both patients clearly benefited by antimycobacterial treatment.

The risk of involvement of *M. lentiflavum* in disease was initially considered low and this species was regarded as minimally virulent on the basis of its inability to cause persistent infection in BALB/c, or gamma interferon-deficient mice.¹⁵ It is unquestionable that the immune suppression strongly increases the risk of contracting *M. lentiflavum* infection. Of our patients, one was heavily immunocompromised, but the others too presented physiologic lowering of immuno responsiveness typical of early childhood and old age.

The prevalence of cases springing from the literature in which *M. lentiflavum* is involved in disease is very likely underrated. In fact most of laboratories do not implement identification procedures suitable to recognize the majority of the recently described mycobacterial species and very frequently such strains end by being attributed, on the basis of better resemblance of phenotypic traits, to one of the traditionally known species of which more awareness exists.⁴

We think, therefore, it is time to stop considering the *M. lentiflavum* infection just a curiosity. The organism seems nowadays to have attained a proper place among potential agents of mycobacterial disease and its correct identification is important as the species is, as other mycobacteria genetically related to *Mycobacterium simiae*, characterized by high resistance to almost all anti-mycobacterial drugs.⁹

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