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Gordonia terrae: a Difficult-To-Diagnose Emerging Pathogen?▽

In a recent paper, Gil-Sande et al. reported the misidentification of bacteremia due to *Gordonia terrae* (5). We found it of interest to report a similar experience of misidentification of this bacteria in a different but also unexpected clinical setting. A 41-year-old woman without a medical history presented with a palpebral abscess unsuccessfully treated with local fusidic acid for 1 week. Two weeks before, she spent a holiday riding in the country and reported she felt her eye smarting all day long. Bacteriological examination of granulomatous exudates obtained by surgical excision was required. Gram-stained smears exhibited a purulent content, but no bacteria were observed. Standard media were incubated both aerobically and anaerobically for 7 days at 37°C and checked every day. After 72 h of incubation at 37°C, aerobic cultures yielded numerous smooth, pinkish, 3-mm-diameter colonies of gram-positive, partially acid- and alcohol-resistant, pleomorphic rods. Enzymatic activities were tested with the API CORYNE strip (bioMérieux, Marcy-l'Etoile, France), and the microorganism was initially identified as *Rhodococcus* sp. Proper identification of the isolate as *G. terrae* was upheld by the results of 16S rRNA gene sequencing performed at the French Nocardiosis Observatory. The patient did not require any more antibiotic therapy, as surgical drainage led to complete recovery within a few days. At the time Gil-Sande et al. reported their case, the genus *Gordonia* included 21 validly published species (5). Since then, three more species have been described, two of them from human specimens (4, 8). *Gordonia* spp. are found in the environment and likely to be of low pathogenicity, but better knowledge of these organisms could lead to more frequent recognition as pathogens in a wider range of human diseases. At this time, only eight of these species, including *G. terrae*, have been occasionally described as human pathogens, mainly in immunocompromised patients or as health care-associated pathogens (3, 6, 7, 9–12). It is, however, still necessary to report additional cases, especially when the infection occurs in an immunocompetent patient and the bacterium is unexpected. The case described by Gil-Sande et al. may be considered a systemic infection in a debilitated patient. Our case appears to belong to another type of infection only described twice previously with *G. terrae* (1, 13) but very well known with closely related bacteria such as *Nocardia* spp., i.e., granulomatous skin infection (2). We hypothesize that the microorganism gained access to the eyelid follicular gland through rubbing of a small palpebral injury with soil-contaminated hands. This supposed route of acquisition is consistent with previously described *G. terrae* cutaneous infections, both associated with a breach in the integrity of the skin defenses (1, 13). Like *Nocardia* spp., *Gordonia* spp. are slow-growing bacteria; therefore, it is necessary to observe the plates for more than the usual 48-h period of incubation to have a chance to isolate them. Moreover, precise identification of these microorganisms requires genomic sequencing, a method that is unavailable in most clinical laboratories. These facts, along with the difficulty of considering environmental bacteria as pathogens when they are isolated in human specimens, may contribute to the underdiagnosis of *Gordonia* sp. infections. Our case focuses attention upon unusual and difficult-to-diagnose actinomycete infections in community patients without evident or major risk factors. Like Gil-Sande et al., we failed to identify the bacteria when using the same routine commercial kits (5) but suspected a nocardioform species mainly because of the weakly acid-fast nature of the strain. We agree with those authors concerning the need to consult a reference laboratory when a seldom-reported group of bacteria is isolated as pathogens in an atypical, even noncritical, clinical situation, especially if phenotypic identification is not conclusive (5). Clinical outcome is not the only reason for such specialized testing, as definite identification usually occurs late in the course of the disease. A better knowledge of the epidemiology of environmental or opportunistic pathogens is the challenge microbiologists have to meet in performing the proper identification of isolates. From this point of view, our report, like that of Gil-Sande et al., contributes to a better definition of the pathogenicity of *G. terrae*, which could be similar to that of *Nocardia* spp., ranging from primary cutaneous infections in immunocompetent hosts to systemic infections in immunocompromised patients.

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