INTRODUCTION

The oral cavity may represent a reservoir of Pseudomonas aeruginosa, especially in patients with periodontitis; this makes treatment more difficult and, in the case of opportunistic infections, may worsen the conditions of debilitated patients, such as the elderly and immunosuppressed. The present investigation aims at using a clinical case to discuss the possibility of a secondary infection of a keratocystic odontogenic tumor by P. aeruginosa multiresistant to antimicrobial agents.

CASE REPORT

A 24 year-old female patient came with a panoramic radiography that showed an unerupted upper third molar associated with a radiolucent lesion (Fig. 1a), later diagnosed as keratocystic odontogenic tumor (Fig. 1b).

Two weeks after lesion enucleation, a fistula appeared (Fig. 1c), with a buccosinusual communication and oozing of a yellowish fluid that was aspirated and sent for culture - carried out in blood agar in aerobiosis and anaerobiosis, at 37°C, for 48 hours and 15 days, respectively. The isolated micro-organisms were identified by biochemical tests, showing only antimicrobial susceptibility tests: amikacin, amoxicillin, amoxicillin/clavulanic acid, azithromycin, chloramphenicol, ciprofloxacin, clindamycin, doxycycline, erythromycin, imipenem, lincomycin, norfloxacin, G penicillin, rifampin, tetracycline, tobramycin, vancomycin, and it was resistant to all of them, with the resistance varying from 64 μg/ml to 8 μg/ml, thus being in a range above what could be clinically reached. The bacteria produced b-lactamase (s) capable of degrading all the b-lactamic drugs.

In the 72 hour period between clinical specimen collection and the antibiogram results, the patient was medicated with amoxicillin without satisfactory results. We then decided to terminate the use of antibiotics and we performed the surgery. The fistula appeared.

In search of the factors associated with keeping the infection, by means of a radiographic analysis we identified pulpar involvement in the second upper left molar, which received endodontic treatment. Through the fistula, we removed organic remains from there using water/hydrogen peroxide (equal volumes) with satisfactory results (Fig. 1d).

DISCUSSION

Pseudomonas in the oral cavity is not a rare occurrence; however, its multiple resistance and the involvement of root canals is not common, since endodontic infections are usually associated to a mixed microbiota with a predominance of anaerobic bacteria, and Pseudomonas aeruginosa is aerobic.

Nonetheless, in asymptomatic endodontic infections the microbiota proved to be mainly made up of facultative anaerobic bacteria, and Pseudomonas aeruginosa is aerobic.

In such a way that the origin of this secondary infection in the keratocystic tumor is possibly associated with the dental disease. However, since we did not see any communicative relation between the root canal system and the external environment or the presence of periodontitis, we can not safely state how the microorganism reached pulpar and periapical tissues. Nonetheless, the surgical trauma, despite all care taken with asepsis, allowed for its spread towards the tissues of the oral cavity and those of the maxillary sinus.

We must take exceptional care with the systemic spread of these multiresistant rods, and we submit that the major factor responsible for the successful treatment was the favorable health condition of the patient and the proper endodontic treatment that was undertaken. Bacteria of the Pseudomonas genus frequently have multiple resistance mechanisms, and in the case of b-lactamic, it happened because of the production of b-lactamases and, it is likely also associated with the development of water tight barriers.

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