

**Title: FREQUENCY AND ANTIBIOTIC SUSCEPTIBILITY PATTERNS OF OPPORTUNISTIC BACTERIA, ISOLATED FROM ORAL CAVITY OF PATIENTS WITH ORAL OR CERVICAL-THORACIC CANCER**

**Authors:** Cavalcante, D.K.F.<sup>1</sup>; Pedrosa, B.C.M.<sup>1</sup>; Amaral, I.V.<sup>1</sup>; Melo, N.E.<sup>1</sup>; Ferreira, M.F.L.<sup>1</sup>; Stipp, R.N.<sup>2</sup>; Kamiya, R.U.<sup>1</sup>

**Institution:**<sup>1</sup> UFAL – Universidade Federal de Alagoas (Av. Lourival Melo Mota, S/N - Tabuleiro dos Martins, Maceió - AL, 57072-900).

<sup>2</sup> FOP – UNICAMP – Faculdade de Odontologia de Piracicaba (Av. Limeira, 901, Areião, Piracicaba – SP, 13414-903).

**Abstract:**

Cancer have high incidence and mortality rates in the population and is considered a public health problem. Opportunistic infections in immunocompromised individuals are common and may be caused by various microorganisms, including *P. aeruginosa*, *Staphylococcus spp.* and *Enterobacteriaceae*. Then, the aim of this study was to analyze the frequency and antibiotic susceptibility patterns of the opportunistic bacteria isolated from the oral cavity of patients diagnosed with oral or cervical-thoracic cancer and treated at the High Complexity Center for the Treatment of Cancer (CACON) of the Federal University of Alagoas. **Methodology:** stimulated saliva from 62 patients with oral or cervical-thoracic cancer and 20 healthy individuals (control group) was collected and plated on semi-selective media (Cetrimide, Mannitol Salt and MacConkey Agar). The microorganisms were quantified and identified biochemically. The antibiotic resistance profiles were evaluated by the method of Kirby-Bauer, as described by CLSI. Had been characterized 48 strains of *P. aeruginosa*, 40 of *Enterobacteriaceae* and 66 of *Staphylococcus spp.* in patients with cancer. **Results:** There was high frequency of total microorganisms, including *Candida spp.* and opportunistic bacteria in the oral cavity of these patients, in relation to control group (Student test,  $p \leq 0,05$ ). In addition, there was high frequency of resistance to ceftazidime and amoxicillin with clavulanic acid in *P. aeruginosa* strains and enterobacteria species. Although, less than 15% of enterobacteria strains were resistant to azithromycin, cefotaxime, ceftriaxone, ciprofloxacin, imipenem and piperacillin with tazobactam, and 2 to 28% of *P. aeruginosa* strains were resistant to ceftazidime (2%), ceftriaxone (10%) and cefotaxime (28%). Despite the low frequency resistance of Gram negative bacteria, among sixty-six *Staphylococcus spp.* strains, 12% (8) showed resistance to Methicillin (MRSA or MRS). **Conclusion:** Based on the results, the studies to analyze the resistance to antibiotics of micro-organisms isolated from oral cavity of patients undergoing cancer treatment are very important. The presence of resistant microorganisms in the oral cavity associated to another factor, as well as ulcerative lesions and limited immunological conditions may increase the risk of metastatic infections difficult to therapy.

**Keywords:** antibiotic resistance - resistant microorganisms - opportunistic infections - oral cancer - cervical-thoracic cancer

**Acknowledgment:** CNPq, FAPCAL, MS and SESAU (PPSUS process number: 60030.000710/2013)