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PHOTODYNAMIC THERAPY ASSOCIATED WITH CONVENTIONAL ENDODONTIC TREATMENT IN PATIENTS WITH ANTIBIOTIC RESISTANT MICROFLORA

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This study present the antimicrobial effect of photodynamic therapy (PDT) combined to endodontic treatment with conventional endodontic treatment alone in patients with necrotic pulp and presenting a microflora resistant to a previous antibiotic therapy.

Seven patients with periapical lesion whom have been treated with conventional endodontic treatment associated with antibiotic therapy were selected. All the patients had at least a microorganism resistant to antibiotic medication. Microbiological samples were taken after accessing the root canal, after conventional manual endodontic therapy and after photodynamic therapy. The photodynamic therapy used methylene blue as a photosensitizer and a 660nm diode laser as a light source. All the root canals were filled with a calcium hydroxide paste for 1 week and had been obtured in the followed session. Radiographs were taken after obturation and following 6 months. Endodontic therapy alone, even producing a significant reduction on microorganisms do not eliminate them from the root canal; while the combination with PDT had a total microflora reduction. Radiographic follow up showed considerable reduction in the lesion area after 6 months. Results suggest that the use of PDT added to conventional endodontic treatment leads to a further major reduction of microbial load. PDT is an efficient treatment to kill microorganisms resistant to chemical antimicrobial agents and antibiotic therapy. It is a non-cumulative local treatment, which may be an appropriate approach for the treatment of infections in the oral cavity.