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## Antimicrobial photodynamic therapy: A new disinfection frontier in dentistry

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**Introduction:** Microorganisms have been identified as the main culprits of oro-dental diseases. With the advent of photodynamic therapy, a new minimally invasive and precise approach towards disinfection has been developed. Photodynamic therapy means light induced athermal inactivation of cells and microorganisms. The principle of photodynamic therapy is that, by using a photosensitizer, the microorganisms are first stained, then sensitized and destroyed after irradiation with light of suitable wavelength and energy density.

**Case Series:** In this case series, antimicrobial photodynamic therapy was used for periodontal pocket therapy, root canal disinfection, treatment of alveolar osteitis, management of peri-implantitis and disinfection after caries excavation in pediatric patients. In all conditions, it was found to be effective in eradicating pathogenic bacteria and controlling inflammation.

**Conclusion:** Antimicrobial photodynamic therapy successfully stops inflammation without antibiotics, without surgical intervention and without any adverse effects with maximum therapeutic benefits in different oro-dental infections. Future directions should conduct researches involving new photosensitive compounds seeking improved photophysical and photochemical properties to maximize the photodynamic action in the biological environment.

### Biography

Arundeeep Kaur is the Chief of the Department of Periodontics and Oral Implantology at the Maulana Azad Institute of Dental Sciences, New Delhi, India for the last 25 years. She did her Post Graduation in Periodontics from PGDC, Amritsar. She was a recipient of 16 medals in different subjects. She is an Eminent Speaker in many national and international forums. She has 65 scientific publications to her credit.

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