

INTRODUCTION

The aim of this study was to clinically demonstrate the interest of various wavelenghts in endodontic practice: orthograde and retrograde treatments then cicatrisation.

MATERIAL AND METHODS

Gingivectomy Er:YAG (fluence: 30J/cm²)

- mode: VSP (100µs)
- output power: 150mJ
- frequency: 15Hz
- sapphire tip 0.8mm
- contact mode

Root canal disinfection Nd:YAG

- output power: 1,5W
- frequency: 10Hz
- pulses number/tooth: 200
- fiber diameter: 300µm
- contact mode
- in 2.5% sodium hypochlorite

Gingival incision Er:YAG (fluence: 30J/cm²)

- mode: VSP (100µs)
- output power: 350mJ
- frequency: 15Hz
- sapphire tip 0.8mm
- contact mode
- air/water spray (15/25)

Bone trepanation (fluence: 30J/cm²)

- VSP (100µs)
- 350mJ
- 15Hz

Retrograde cavities in apical and lateral positions (fluence: 40mJ/cm²)

- VSP (100µs)
- 200mJ
- 15Hz

Desinfection of surgical cavities (25 sec.) Nd:YAG

- 2W
- 10Hz
- 200µm fiber

Postoperative healing He-Ne

- aiming beam 3, 5 mn

DISCUSSION

The combination of Er:YAG and Nd:YAG lasers allowed slight bleeding, better operative conditions with more easier and faster retrograde filling compared with usual technique, good visibility, discreet postoperative reactions. This new technology represents a significant help in endodontic practice.

CLINICAL REPORT

Er:YAG and Nd:YAG laser Fidelis Plus II™ (Fotona, Slovenia)

N. P. 32-year-old patient, female, gingival hypertrophy and chronic periapical and lateral inflammations (perforations) with acute abscess exacerbations

Orthograde retreatment



Tooth #22



Orthopantograph



Preoperative radiography



Peroperative radiography



Postoperative radiography



Clinical view



Gingivectomy



Root canal disinfection and obturation with gutta percha



Retrograde treatment



Local anesthesia and gingival incision with Er:YAG laser



Bone trepanation and apical resection with Er:YAG laser, disinfection with Nd:YAG laser

Healing process



1 week after



Suture ablation



2 weeks after



Biostimulation



3 weeks after



3 months after