

Retreatment of endodontics using hybrid instrumentation in a tooth with periapical pathology: a case report

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Aim: Report a clinical case of endodontic retreatment using a hybrid instrumentation technique, L&C paste associated with glycerin as intracanal medication and bioceramic cement.

Methods: A 42-year-old male, melanoderma patient, attended the Nilton Lins University Dentistry clinic complaining of tooth fracture and sensitivity in the upper frontal region and pain on chewing. The image exams, showed a bone radiolucense on the root tip, suggestive of a periapical lesion. Clinically, pain on vertical percussion was observed. The findings indicated an unsatisfactory primary endodontic treatment. Given the characteristics presented, endodontic reintervention in two sessions was chosen.

Results: After the endodontic obturation, the patient was followed through a year. During the months of follow-up, it was observed decrease of the radiolucense on the root tip, as well as the appearance of radiopaque areas, suggestive of bone formation, indicating the effectiveness of the proposed treatment.

Conclusion: Therefore, the endodontic reintervention using hybrid instrumentation technique, L&C paste associated with glycerin as intracanal medication and bioceramic cement, showed a satisfactory result in the controlling of the infection. After 1 year, signs of bone remodeling can be seen, meeting the heal expectations predicted in the case planning, leaving the tooth suitable for prosthetic rehabilitation and return to its function.

Uniterms: root canal obturation; root canal filling materials; periodontal cyst.

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INTRODUCTION

Treatment failure can be noticed through signs that indicate persistent infection¹. Factors such as inadequate access surgery, mistaken infection control, and inconsistent filling can lead to endodontic retreatment². Retreatment is indicated when the tooth, which has already received definitive treatment, once again presents adverse post-obturation conditions, which can be confirmed through clinical and radiographic findings³.

The anatomical complexity of root canal systems (RCS) must be taken into account, as this makes it difficult to remove microorganisms in certain regions⁴. Endodontic reintervention is guided by the removal of filling material, followed by new instrumentation, and, consequently, filling and coronal sealing⁵. To remove the substrates present in the root canals, chemical auxiliaries are needed, which are of great importance during the chemical- mechanical process (CMP)⁶.

The engine driven endodontic instruments are produced on a nickel-titanium base, which

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are flexible, making better instrumentation possible in canals with varied anatomy⁶. These reciprocating files are characterized by the differentiation of their kinematics, as they have the ability to promote alternating movements, which increase the useful life of the material, avoiding the accumulation of debris taken to the apex of the canal during instrumentation⁷. The kinematics of these instruments provide greater agility and speed during biomechanical preparation⁸.

During CMP, it is necessary to use irrigating solutions to promote cleaning and control infection⁶. Along with instrumentation, it is extremely important to use irrigation, as it promotes the lubrication and cleaning of the RCS, reaching places where the files are unable to touch⁹. Easy Clean (Easy, Belo Horizonte, MG, Brazil) is a plastic material used as an endodontic accessory that helps during this stage, agitating the irrigating substance inside the canal¹⁰. This agitation is responsible for the removal of the smear layer present inside the root canal¹¹.

Calcium hydroxide, when present in the oral environment, has antimicrobial action, closely linked to its speed of breakdown into hydroxyl ions, breaking the bacterial cytoplasmic membrane and inhibiting metabolism, growth and cell division¹¹. Hydroxyl ions diffuse between the dentinal tubules, inactivating the gram-negative bacteria present in the médium¹². The bioceramic cement acts in the formation of apatite after endodontic treatments, depositing minerals interfibrillarly¹³. Furthermore, it is

hydrophilic, having adequate drainage, filling main and accessory canals^{12,13}.

Therefore, this work aims to report on a clinical case of endodontic retreatment using a reciprocating system and bioceramic cement.

CASE REPORT

A 42-year-old, male, melanoderma patient was admitted to the dental clinic at Nilton Lins University complaining of a fracture and sensitivity in the anterior tooth region, in addition to pain when chewing. After signing the informed consent form, screening continued. During the anamnesis, the patient informed that he did not use drugs or drink alcoholic beverages, and had no allergies or metabolic alterations. Vital signs were measured, and a state of normality was found in order to continue the dental care procedures.

In the extraoral physical examination, no noteworthy alterations were observed, following a pattern of facial normality. In the intraoral examination, fractured tooth 11 was observed, which shows the main complaint of the patient (Figure 1). The initial radiograph shows a radiolucent image, measuring 20 mm, based on the root apex and the incisor, suggestive of a periapical lesion, with pain upon vertical percussion, indicating an unsatisfactory primary endodontic treatment (Figure 2). Given the characteristics presented above, we opted for endodontic reintervention and rehabilitation, using a fiberglass post and a restoration using composite resin.

Figure 1. Initial clinical appearance.



Figure 2. Initial periapical radiography.



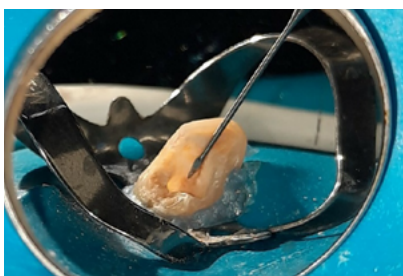
In view of this condition, the case planning included endodontic treatment, planned in 2 sessions, followed by the prosthetic rehabilitation of the tooth. After carrying out the preliminary planning, endodontic therapy began with anesthesia of the anterior superior alveolar nerve, using 2% lidocaine with epinephrine at a concentration of 1:100,000 in the vestibule bottom region, followed by absolute isolation

with a rubber sheet, supported by the 212 clamp and complemented with a gingival barrier around the entire tooth. Soon after, the walls of the cavity were smoothed with an Endo Z (Dentsply Sirona, New York, USA) drill for a better visualization of the conduit (Figure 3). Subsequently, the cervical and middle thirds were removed with a #3 Gates Glidden (Dentsply Sirona, New York, USA) bur (Figure 4).

Figure 3. Operative field isolation.



Figure 4. Removal of the gutta percha from the cervical third.



Subsequently, the apical third was unfilled with a WA1 file – File #25, 25 mm and taper 0.07 (TDK, Tokyo, Japan), coupled to the Silver Reciproc VDW Endodontic Motor (VDW, Bayerwaldstr, München, Germany), with a standard configuration of 300 RPM, torque 2 N. The Largo #4 (Dentsply Sirona, New York, USA)

bur and 25 mm Headstroem #25 (Dentsply Sirona, New York, USA) files were used with a penetration and traction movement against the dentin walls in order to remove excess material in that region (Figure 5). Canal exploration with foraminal cleaning was performed using #10 and #15 files (Dentsply Sirona, New York, USA).

Figure 5. Removal of gutta percha from the apical third.



Once the root canal had been removed, the actual working length (AWL) was confirmed through odontometry with the aid of a foraminal locator (Root Zx II, J Morita, Suita, Osaka, Japan) at 21 mm (Figures 6 and 7). Once this measurement had been confirmed, the tooth then received anew instrumentation, using a Reciproc Blue R50 reciprocating file (VDW, Bayerwaldstr, München, Germany) in the AWL, followed by apical patency with a #15 file in 22 mm (Figure 8). Using Easy Clean (Easy, Belo Horizonte,

MG, Brazil), 2.5% sodium hypochlorite was stirred inside the root canals for 60 seconds and dried with an absorbent paper cone. Soon after, the patient received an intracanal medication of L&C paste (Dentsply, São Paulo, SP, Brazil), associated with glycerin, taken to the conduit, using a #3 lentulo drill (Dentsply Sirona, New York, USA) (Figure 9). Provisional restoration was performed (Coltosol, Coltene, Altstätten, Canton Saint Gall, Switzerland), and the patient was discharged.

Figure 6. Confirmation radiograph of complete gutta percha removal.

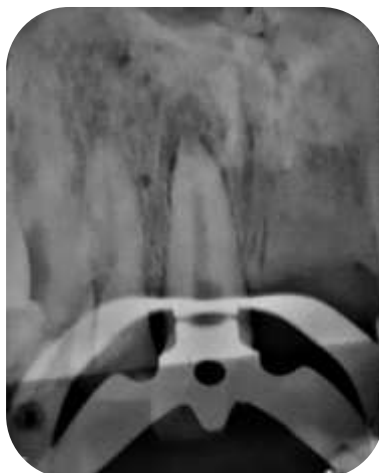


Figure 7. Radiography of odontometry.



Figure 8. Reciprocal reinstrumentation.



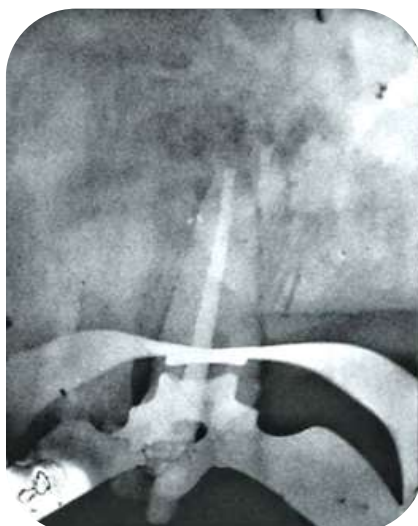
Figure 9. MIC radiography.



The follow-up period lasted 14 days, where the patient returned to continue the treatment. All of the initial steps were performed, including isolation, removal of the provisional restoration, and abundant irrigation to remove intracanal medication (IM) residues. The instrumentation was complemented with #55 and #60 manual

files to measure the AWL, obtaining the latter as a memory file. Subsequently, the cone test was performed through visual, tactile, and radiographic tests (Figure 10). An average cone M (Dentsply Sirona, New York, USA), calibrated using a calibrating ruler (Angelus, Londrina, PR, Brazil), was selected.

Figure 10. Radiography cone test.



Once the conometric stage had been approved, the conduit was then prepared, and the smear layer removed with ethylenediaminetetraacetic acid, shaken with the aid of Easy Clean (Easy, Belo Horizonte, MG, Brazil), coupled to the contra-angle at a low rotation

(Figure 11). Meanwhile, the gutta percha cones were disinfected with sodium hypochlorite at a concentration of 2.5% for one minute. Removal of the chelating solution was performed by applying 2.5% sodium hypochlorite with subsequent drying of the canal using paper points.

Figure 11. Agitation of the chelating solution.



After confirming that the canal was dry and modeled, it was then sent for obturation using the vertical hydraulic compression technique with a single cone. Obturator cement (Bio-C Sealer, Angelus, Londrina, PR, Brazil) was inserted into the conduit through the tip of the material itself, filling it completely (Figures 12 and 13). The cone was then shaken against the walls to spread the

filling material. With the obturation well filled, the cones were then cut with the aid of a #3 Paiva presser heated in a lamp. The coronary shielding (Coltosol, Coltene, Altstätten, Canton Saint Gall, Switzerland) was then performed at the mouth of the canal, followed by a provisional glass ionomer restoration (Maxxion R, FGM, Joinville, SC, Brazil).

Figure 12. Filler cement insertion.



Figure 13. Radiography obturation confirmation.



In the final radiograph, a canal with an adequate obturation of filling material was observed. After a period of 15 days, the patient returned with no pain. Below are images related to the preservation at three months and one year, respectively. The imaging exam showed a decrease in the apical radiolucent area, suggesting effectiveness and meeting

the expectations of the proposed treatment. The patient was subsequently referred to the prosthesis clinic for prosthetic rehabilitation and will continue to undergo follow-up (figures 14, 15 and 16). After 1 year, an increase of radiopaque areas in the bone can be observe, that, plus the absence of pain or other clinical signs, indicates treatment sucess.

Figure 14. Radiography immediate post-obturation.



Figure 15. Follow-up radiograph of 3 months with fiberglass pin installed.



Figure 16. Follow-up radiograph of 1 year.



DISCUSSION

The success of endodontic treatment is directly related to the control of infection promoted by cleaning the RCS². The infectious process occurs gradually, showing clinical and radiographic signs through lesions associated with the root apex³. These manifestations are presented through painful symptomatology, as well as esthetic and/or functional alterations¹. In the clinical case presented here, endodontic reintervention was recommended due to persistent signs of painful symptoms reported by the patient, together with the lesion in the root periapex indicated in the periapical radiography.

Among the forms of treatment suggested by the literature, endodontic reintervention can be presented in the following ways: conventionally, through unfilling from the cervical to the apical direction, followed by re-instrumentation; or surgical by means of retroinstrumentation from the apical to the cervical direction¹⁴. Surgical treatment is recommended for cases of persistent pathology, in which there is no regression of the lesion after conventional retreatment¹⁵. In the reported case, the therapy of choice was by the conventional technique through reciprocating instrumentation related to IM exchange.

Nickel-titanium endodontic files have characteristics of flexibility and conicity, providing an adequate, simpler, and more efficient preparation of the RCS¹⁶. WA1-files have a conicity of 0.07, 0.06, and 0.05, according to the manufacturer, with their cross-sectional design in a parallelogram, favoring the cut¹⁷. Another characteristic is its larger cross-sectional area, which confers greater resistance to fracture due to torsion¹⁸. The Reciproc system is one of the most popular in endodontics, presenting excellent mechanical properties, RCS modeling, and disinfection of the root canals¹⁹. To increase its resistance, the Reciproc Blue system undergoes a thermal treatment in order to optimize its mechanical properties and resistance to fracture²⁰.

The action of calcium hydroxide induces the formation of a rigid membrane on the tissues inserted in it²¹. In the pulp and connective tissue of the tooth, this action is stimulated due to the occurrence of mineralization through alkaline phosphatase and fibronectin¹². When associated with IM, according to Jara et al.²², this action serves to control the infection by reducing necessary nutrients and preventing the continuation of bacterial proliferation, forming a physical-chemical barrier. In the case discussed in this report, the material was recommended due

to the characteristics mentioned above, aiming to treat the periapical lesion in the periapex.

According to Sáez et al.¹², the use of calcium hydroxide in dentin tissue promotes pH changes, leading to a greater release of calcium ions. Zancan et al.²¹ evaluated the calcium release, solubility, and antimicrobial action of the material against biofilms over a period of seven days, arriving at the result that highlighted the inefficiency of the material itself for the complete elimination of these substrates; however, when associated with glycerin, it favored efficacy against biofilms. In the present clinical case, the association between L&C paste and glycerin was chosen, resulting in LCG paste, used as a delay dressing for a period of 15 days.

The correct use of the irrigating solution is a determining factor for the success of endodontic therapy, with NaOCl being a recommended as an irrigant due to its antibacterial activity and the dissolution of the pulp tissue²³. For Souza et al.²⁴, in a study of extracted human teeth, the Easy Clean irrigation system activator proved to be more efficient than conventional irrigation alone, acting as a potentiator of the irrigating solution, easily penetrating the RCS. In the clinical case addressed herein, the use of the potentiated solution facilitated not only the penetration of the IM, but also the spreading of the chelating solution in the RCS.

Bioceramic cements absorb osteoinductive substances when a bone repair process occurs, serving as a regenerative base, which is dissolved as the body rebuilds the tissue, in turn stimulating the formation of mineralized tissue²⁵. Compared to conventional endodontic cements, Torres et al.²⁶ analyzed the physical properties of conventional cements, with Endo Fill presenting satisfactory results regarding its solubility between 7 and 30 days. The bioceramic cement makes the pH of the environment more alkaline, thus promoting a potential for osteogenesis and antimicrobial capacity to neutralize the lactic acid of osteoclasts, thereby preventing the dissolution of the neutralized components of the tooth²⁷.


Manfred et al.²⁸ compared the success of endodontic treatment in a single session and in multiple sessions, to which no significant damage was noted, considering both proposed conditions, reaching a result in which it can be concluded that, when the CMP stages are respected, with abundant irrigation and adequate sealing, there is a high chance of success in therapy. Teeth indicated for endodontic retreatment, with a lesion in the root apex greater than 5 mm, treated in multiple sessions, showed regression of the pathology in 80% of the cases²⁹.

Case reports, despite having a low impact when compared to other research methods, enable a direct interpretation of the clinical conditions presented in the daily clinical challenge. However, there are difficulties to be taken into account, including: the healing response and infection control itself, which can only be evaluated when the patient returns for periodic follow-ups. Despite the difficulties, works like these show the clinical reality and, above all, the possibility of resolution in common cases such as that presented in this report.

CONCLUSION


Therefore, the endodontic reintervention using hybrid instrumentation technique, L&C paste associated with glycerin as intracanal medication and bioceramic cement, showed a satisfactory result in the controlling of the infection. After 1 year, signs of bone remodeling can be seen, meeting the heal expectations predicted in the case planning, leaving the tooth suitable for prosthetic rehabilitation and return to its function.

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CONFLICT OF INTEREST DECLARATION

“No conflict of interest to declare”.

DESCRIPTION OF THE AUTHORS' CONTRIBUTIONS

Gabriel Caiam Milhomens Cantanhêde: Conceptualization; Investigation; Essay; Resources

Jefferson Pires da Silva Júnior: Conceptualization; Methodology, Software

Bruna Mirely da Silva Cavalcante: Validation; Essay; Revision; Edition

Pedro Paulo Lopes de Almeida: Project Management; Revision

André Luiz Cabral da Silva: Writing - Preparation of the Original Draft

Everaldo de Aquino Pereira: Accompaniment; and Supervision

Naildo Aguiar Cordeiro: Methodology; Validation; Visualization; Supervision

REFERENCES

1. Fernandes FS, Silva Júnior JP, Cavalcante BMS, Almeida LFT, Cordeiro NA, Silva ALC. Endodontic intervention for the control of periapical injury associated with traumatized teeth: a case report. *IJSRDMS*. 2023;5(2):102-6.
2. Santos-Junior AO, Pinto LC, Mateo-Castilho JF, Pinheiro CR. Success or failure of endodontic treatments: a retrospective study. *J Conserv Dent*. 2019;22(2):129-32.
3. Del Fabbro M, Corbella S, Sequeira-Byron P, Tsesis I, Rosen E, Lolato A, et al. Endodontic procedures for retreatment of periapical lesions. *Cochrane Database Syst Rev*. 2016;10(10): 6-8.
4. Kim Y, Lee D, Kim DV, Kim SY. Analysis of cause of endodontic failure of c-shaped root canals. *Scanning*. 2018;2018(2516832):1-7.
5. Tabassum S, Khan FR. Failure of endodontic treatment: the usual suspects. *Eur J Dent*. 2016;10(1):144-7.
6. Gonçalves LS, Rodrigues RC, Andrade Junior CV, Soares RG, Vettore MV. The effect of sodium hypochlorite and chlorhexidine as irrigant solutions for root canal disinfection: a systematic review of clinical trials. *J Endod*. 2016;42(4):527-32.
7. Keskin C, Inan U, Demiral M, Keleş A. Cyclic fatigue resistance of Reciproc Blue, Reciproc, and WaveOne Gold reciprocating instruments. *J Endod*. 2017;43:1360-3.
8. Adıguzel M, Tufenkci P. Comparison of the ability of Reciproc and Reciproc Blue instruments to reach the full working length with or without glide path preparation. *Restor Dent Endod*. 2018;43(4):41-5.
9. Keskin C, Sarıylmaz E, Demiral M. Shaping ability of Reciproc Blue reciprocating instruments with or without glide path in simulated s-shaped root canals. *J Dent Res Dent Clin Dent Prospects*. 2018;12(1):63-7.
10. Haapasalo M, Shen Y, Qian W, Gao Y. Irrigation in endodontics. *Dent Clin North Am*. 2010;54(2):291-312.
11. Silva EJNL, Rover G, Belladonna FG, Herrera DR, De-Deus G, Silva Fidalgo

- TK. Effectiveness of passive ultrasonic irrigation on periapical healing and root canal disinfection: a systematic review. *Br Dent J.* 2019;227(3):228-34.
12. Sáez MDM, López GL, Atlas D, de la Casa ML. Evaluation of pH and calcium ion diffusion from calcium hydroxide pastes and MTA. *Acta Odontol Latinoam.* 2017;30(1):26-32.
 13. Debelian G, Trope M. The use of premixed bioceramic materials in endodontics. *G Ital Endod.* 2016;30(2):70-80.
 14. Holland R, Gomes Filho JE, Cintra LTA, Queiroz ÍOA, Estrela C. Factors affecting the periapical healing process of endodontically treated teeth. *J Appl Oral Sci.* 2017;25(5):465-76.
 15. Meirinhos J, Martins JNR, Pereira B, Baruwa A, Gouveia J, Quaresma SA, et al. Prevalence of apical periodontitis and its association with previous root canal treatment, root canal filling length and type of coronal restoration: a cross-sectional study. *Int Endod J.* 2020;53(4):573-84.
 16. Serafin M, Biasi M, Franco V, Generali L, Angerame D. Influence of different motions on the cyclic fatigue resistance of Reciproc and Reciproc Blue endodontic instruments. *J Conserv Dent.* 2019;22(5):449-53.
 17. Calefi PHS, Osaki RB, Evedove NFD, Cruz VM, Andrade FB, Alcalde MP. Cyclic and torcional fatigue resistance of W File and X1 Blue file reciprocating instruments. *Dental Press Endod.* 2020;10(2):60-6.
 18. Alcalde MP, Duarte MAH, Bramante CM, Vasconcelos BC, Tanomaru-Filho M, Guerreiro-Tanomaru JM, et al. Cyclic fatigue and torcional strength of three different thermally treated reciprocating nickel-titanium instruments. *Clin Oral Investig.* 2018;22(4):1865-71.
 19. Arslan H, Alsancak M, Doğanay E, Karataş E, Çapar ID, Ertas H. Cyclic fatigue analysis of Reciproc R25 instruments with different kinematics. *Aust Endod J.* 2016;42(1):22-4.
 20. Gavini G, Santos MD, Caldeira CL, Machado MEL, Freire LG, Iglecias EF, et al. Nickel-titanium instruments in endodontics: a concise review of the state of the art. *Braz Oral Res.* 2018;32(suppl 1):e67.
 21. Zancan RF, Cavenago BC, Oda DF, Bramante CM, Andrade FB, Duarte MAH. Antimicrobial activity and physicochemical properties of antibiotic pastes used in regenerative endodontics. *Braz Dent J.* 2019;30(6):536-41.
 22. Jara M, Salcedo-Moncada D, Ayala G, Watanabe R, Alvítez-Temoche D, Mayta-Tovalino F. Antibacterial efficacy of calcium hydroxide with Iodoform versus calcium hydroxide with camphorated paramonochlorophenol as intrachannel pastes on an enterococcus faecalis biofilm: a comparative in vitro study. *J Int Soc Prev Community Dent.* 2020;10(5):555-60.
 23. Borzini L, Condò R, De Dominicis P, Casaglia A, Cerroni L. Root canal irrigation: Chemical agents and plant extracts against enterococcus faecalis. *Open Dent J.* 2016;19(10):692-703.
 24. Souza CC, Bueno CE, Kato AS, Limoeiro AG, Fontana CE, Pelegrine RA. Efficacy of passive ultrasonic irrigation, continuous ultrasonic irrigation versus irrigation with reciprocating activation device in penetration into main and simulated lateral canals. *J Conserv Dent.* 2019;22(2):155-9.
 25. Almeida MM, Rodrigues CT, Matos AA, Carvalho KK, Silva EJ, Duarte MA, et al. Analysis of the physicochemical properties, cytotoxicity and volumetric changes of AH Plus, MTA Fillapex and TotalFill BC Sealer. *J Clin Exp Dent.* 2020;12(11):1058-65.
 26. Torres FFE, Guerreiro-Tanomaru JM, Bosso-Martelo R, Espir CG, Camilleri J, Tanomaru-Filho M. Solubility, porosity, dimensional and volumetric change of endodontic sealers. *Braz Dent J.* 2019;30(4):368-73.
 27. Raghavendra SS, Jadhav GR, Gathani KM, Kotadia P. Bioceramics in endodontics - a review. *J Istanbul Univ Fac Dent.* 2017;51(31):128-37.
 28. Manfredi M, Figini L, Gagliani M, Lodi G. Single versus multiple visits for endodontic treatment of permanent teeth. *Cochrane Database Syst Rev.* 2016;12(12):52-60.
 29. Olcay K, Eyüboğlu TF, Özcan M. Clinical outcomes of non-surgical multiple-visit root canal retreatment: a retrospective cohort study. *Odontology.* 2019;107(4):536-45.

Retratamento endodôntico utilizando instrumentação híbrida em dente com periapicopatia: relato de caso

Objetivo: Relatar um caso clínico de retratamento endodôntico utilizando uma técnica de instrumentação híbrida, pasta L&C associada à glicerina como medicação intracanal e cimento biocerâmico.

Métodos: Paciente gênero masculino, 42 anos, melanoderma, compareceu ao clínica de Odontologia da Universidade Nilton Lins com queixa de fratura dentaria, sensibilidade na região anterosuperior e dor a mastigação. Os exames de imagem mostraram radiolucidez óssea no ápice radicular, sugestiva de lesão periapical. Clinicamente, foi observada dor à percussão vertical. Os achados indicaram um tratamento endodôntico primário insatisfatório. Dadas as características apresentadas optou-se pela reintervenção endodôntica em duas sessões.

Resultados: Após à obturação endodôntica, o paciente foi acompanhado por um ano. Durante os meses de acompanhamento, observou-se diminuição da radiolucência no ápice da raiz, bem como o aparecimento de áreas radiopacas, sugestivas de formação óssea, indicando à eficácia do tratamento proposto.

Conclusão: Portanto, a reintervenção endodôntica utilizando a técnica de instrumentação híbrida, pasta L&C associada à glicerina como medicação intracanal e cimento biocerâmico, apresentou um resultado satisfatório no controle da infecção. Após 1 ano, é possível observar sinais de remodelação óssea, atendendo às expectativas de cura previstas no planejamento do caso, deixando o dente apto para reabilitação protética e retorno à sua função.

Descritores: obturação do canal radicular, materiais restauradores do canal radicular, cisto periodontal.