AVALIAÇÃO DA INFLUÊNCIA DA ESTERILIZAÇÃO EM INSTRUMENTOS ENDODÔNTICOS TRATADOS TERMICAMENTE: UM ESTUDO PILOTO.

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RESUMO: Introdução: A evolução dos instrumentos endodônticos permitiu melhores resultados no tratamento do sistema de canais radiculares. Com o surgimento dos instrumentos tipo Níquel-titânio (NiTi), houve uma maior acomodação destes aos canais, proporcionando maior limpeza e remodelação. Flexibilidade e maior resistência à fratura são características observadas nos instrumentos NiTi, ainda, há instrumentos que recebem tratamento térmico para obter maiores propriedades. No entanto, não existe um consenso na literatura relacionando o processo de esterilização e alterações as propriedades do instrumento de NiTi que recebeu tratamento térmico. **Objetivos:** Avaliar uma metodologia de estudo para verificar se há influência do processo de esterilização nos instrumentos endodônticos NiTi, considerando as temperaturas de transformação As e Af. **Metodologia:** Um estudo piloto foi realizado previamente com os instrumentos SRF-Sequence e Protaper UniversaL, afim de definir a melhor estratégia metodológica para o estudo. Serão utilizados 27 instrumentos rotatórios endodônticos, divididos em 3 grupos (n=09): Protaper Universal; K3XF; ProTaper Next. Estes grupos serão subdivididos em: instrumentos não esterilizados, instrumentos esterilizados três vezes e instrumentos esterilizados dez vezes. Os instrumentos serão analisados através do calorímetro diferencial por varredura (DSC), o teste será repetido três vezes. Os dados obtidos serão tabulados e o teste para análise estatística adequado será realizado com nível de significância 0,5%. **Resultados:** Através da metodologia apresentada, será possível verificar a influência da esterilização nos instrumentos e assim responder os objetivos da pesquisa. **Conclusões:** O presente estudo apresenta metodologia viável para a conclusão das análises.

Palavras-chave: esterilização, instrumentos endodônticos, temperatura.

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ABSTRACT: Introduction: The evolution of endodontic instruments, better results in the treatment of the root canal system. With the appearance of nickel-titanium (NiTi) instruments, there was a greater accommodation of these channels, providing greater cleaning and remodeling. Flexibility and greater resistance to fracture are characteristics observed in NiTi instruments, yet there are instruments that treat heat treatment to obtain greater properties. However, there is no consensus in the literature relating the sterilization process and changes as properties of the NiTi instrument than heat treatment. **Objectives:** To evaluate a study methodology to verify if there is influence of the sterilization process on NiTi endodontic instruments, considering the transformation temperatures As and Af. **Methodology:** A pilot study was previously carried out with the SRF-Sequence and Protaper UniversaL instruments, in order to define the best methodological strategy for the study. 27 endodontic rotating instruments will be used, divided into 3 groups (n = 09): Universal Protaper; K3XF; ProTaper Next. These groups will be subdivided into: non-sterile instruments, sterile instruments three times and sterile instruments ten times. The agreed instruments of the differential scanning calorimeter (DSC), the test will be repeated three times. The data obtained will be tabulated and the test for proper analysis will be performed with a significance level of 0.5%. **Results:** Through the presented methodology, it will be possible to verify the influence of sterilization on the instruments and thus answer the research objectives. **Conclusions:** The present study presents a viable methodology for completing the analyzes.

Keywords: endodontic instruments, sterilization, temperature

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