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Facultative anaerobic bacteria and their relationship to the characteristics of gutta-percha cones**María del Pilar Angarita Díaz, Diana Carolina Rozo Ortíz, Diana Forero Escobar, Andrea Isabel Arias Ubaque, Alvaro Imbachi Lizcano and Laidy Johanna Sandoval Díaz**

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Statement of the Problem: During endodontic therapy, the specialist seeks to remove the microorganisms present in the root canal and prevent new microorganisms from accessing the area by establishing inhospitable conditions. However, it has been revealed that some of the microorganisms involved in endodontic infectious processes, are able to adapt to such conditions. Thus, if the endodontic materials like gutta-percha cones contain microorganisms that are resistant to the conditions in the root canal once it is sealed they can lead to new infections. Given the different characteristics, the need to subject gutta-percha cones to disinfection processes is questioned. The purpose of this study was to determine the presence and quantity of facultative anaerobic bacteria in gutta-percha cones used by dentistry students, and to determine whether there is a relationship between the presence of the bacteria and the students' use of the instruments.

Methodology & Theoretical Orientation: A representative sample of gutta-percha cones used by the dentistry students at UCC, Villavicencio campus (n=81) was collected. At the same time as collecting the cone samples, information was gathered. The cones were inoculated in blood agar and incubated for 5 days at 35°C in anaerobiosis. The colonies were identified by VITEK system.

Findings: The microbiological analysis revealed that 32.1% of the cones were contaminated by facultative anaerobic bacteria. Among the bacteria identified in this study: *Staphylococcus epidermidis*, *Streptococcus mitis* and others bacterias. With respect to the relationship between the presence and quantification of facultative anaerobic bacteria, and the characteristics of the cones used by the students, the only significant differences found were between the groups defined by opening date. However, there was no linear relationship.

Conclusion & Significance: No relationship is found between the presence and quantity of this type of bacteria and the cone properties, indicating that contamination is random more than it is conditioned by opening and expiry date, brand, and diameter. As such, disinfection before use is essential.

Biography

María del Pilar Angarita Díaz has a degree in microbiology and Ph.D in biotechnology. The knowledge in these topics has allowed her to contribute in the Faculty of Dentistry of the Universidad Cooperativa de Colombia, in different studies such as probiotics for caries prevention and control, and microbiologic analysis of dental material. She teaches in the area of the oral microbiology, knowledge that is enriched with the research.

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