

Advanced Dentistry 2020 A comparison of Mtwo and RaCe rotary instruments, in the preparation of curved canals- Mimoza Canga - Albania

Mimoza Canga

Abstract

Objective: The objective of this study was to compare the effectiveness of Mtwo and RaCe rotary instruments, in cleaning and shaping root canals curvature.

Material and method. The present study was conducted on 160 simulated canals in resin blocks, with an angle curvature 15°-30°. These 160 simulated canals were divided into 2 groups, where each group consisted of 80 blocks. Each group was divided into two subgroups (n=40 canals each). The simulated canals subgroups were prepared with Mtwo and RaCe rotary nickel-titanium instruments. The root canals were measured at 4 different points of reference, starting at 13 mm from the orifice. In the first group the canals were prepared using Mtwo rotary system (VDW, Munich, Germany). The Mtwo files used were: 10/0.04, 15/0.05, 20/0.06 and 25/0.06. These instruments entered in the full length of the canal. Each file was rotated in the canal until it reached the apical point. In the second group the canals were prepared using RaCe instruments (La Chaux-De-Fonds, Switzerland), performing the crown down technique, using the torque electric control motor (VDWCO, Munich, Germany), with 600 RPM and 2n/cm as follow: #40/0.10, #35/0.08, #30/0.06, #25/0.04, #25/0.02. The data were recorded using SPSS version 23 software (Microsoft, IL, USA). Data analysis was done using ANOVA test. Results. The results obtained by using the Mtwo rotary instruments, showed that these instruments were able to clean and shape in the right-to-left motion curved canals, at different levels, without any deviation and in perfect symmetry, with a P-value=0.000. The data showed that greater the depth of the root canal, greater the deviations of the RaCe rotary instruments. These deviations occurred in three levels, which are: S2(P=0.004), S3(P=0.007), S4(P=0.009). The Mtwo files can go deeper and create a greater angle in S4 level (21°-28°), compared to RaCe instruments with an angle equal to 19°-24°.

Conclusion. The present study noted a clinical significant difference between Mtwo rotary instruments and RaCe rotary files used for the canal preparation and indicated that Mtwo instruments are a better choice for the curved canals.

Biography

Mimoza Canga, is a laureate of Dentistry at the University of La Sapienza, Rome, Italy, in the years 2000-2006. She completed her PhD at the age of 45 years from the University of Medicine in Tirana, Albania. She has been working as a lecturer at the University of Vlora, in the Department of Public Health, since 2009. She has published 21 papers and 25 abstracts in reputed journals.

Irene Malagnino is a laureate of Dentistry at the University of L'Aquila, Italy, in the years 1996-2002. She is specialized in orthodontics at the University of La Sapienza Roma, Italy, in the years 2002-2006. She has published 12 articles and 15 abstracts in reputed journals.

Giulia Malagnino is a laureate of Dentistry at the University "Gabriele D'Annunzio", of Chieti in Italy, in the years 1999-2005. She is specialized in Implantology and Oral and Maxillofacial Surgery. She has published 9 articles and 13 abstracts in reputed journals.

Professor Vito Antonio Malagnino is a laureate in the Faculty of the Medicine with excellent grades. He is a professor, at the University "Gabriele D'Annunzio", of Chieti in Italy. He has published 200 articles in reputed journals.

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