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Comparison of the biocompatibility of proroot MTA, MTA Plus and Retro MTA using an MTT assay study

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The purpose of this *in vitro* study is to evaluate and compare the cytotoxicity of three commercially available root-ending materials, MTA Plus, Pro root MTA and Retro MTA, at different storage times after mixing on human periodontal fibroblast using a MTT assay method. Varied concentrations (3, 6, 12, 25, 50 mg/ml) of the fresh and set root-ending materials (ProRoot MTA, MTA Plus and Retro MTA) were placed in adjacent flasks of human periodontal fibroblast in DMEM medium within 96-well plates. Cellular viability was evaluated using a MTT assay after 24, 48, and 72 h of initial mixing. The results were analyzed with 1-way ANOVA. The results showed that there was no significant difference between the biocompatibility of MTA Plus, and that of Pro root MTA or Retro MTA ($P>0.05$). Furthermore, no significant difference was observed between different time intervals for each group ($P>0.05$). The current *in vitro* study showed almost similar biocompatibility for ProRoot MTA and MTA Plus and Retro MTA.

Biography

Negin Kouchak Dezfuli received a Doctor of Dental Medicine degree from the Faculty of Dentistry at the Islamic Azad University of Tehran in 2014. She has been a Teacher Assistant during her study in the Cosmetic & Restorative department. She has worked as a General Dentist in Dental Treatment department of Alborz University of Medical Sciences, Tehran, Iran, for one year. She is currently training the Oral Health Technicians in Alborz University of Medical Sciences. She is also the member of the Dental Research Center of this university.

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