

Letter to the Editor

THE USE OF SALINE SOLUTION OR GELLED PHANTOMS IN MRI STUDIES DURING TESTING DENTAL MATERIALS

Dear Editor,

We read with great interest the recently published article "Effect of non-ionizing radio frequency signals of magnetic resonance imaging on physical properties of dental alloys and metal-ceramic adhesion", by El-Bediwi et al,³ in which the authors aimed to determine the changes on the physical properties of dental alloys and adhesion of metal ceramic after 1.5T magnetic resonance imaging (MRI). It was reported that both the alloy type and the exposure duration had significant effects on the bond strength. It was recommended in the article to use the NiCr alloy over Ti for the fabrication of fixed partial dentures for patients who are frequently exposed to MRIs. This is novel data for the clinicians. However, there is a point I would like to add, as we previously published in MRI studies in other journals.^{2,4}

It could be recommended to the authors to perform the tests by putting the specimens in saline solution or gel that mimics the clinical conditions to determine whether the shear bond strength values change. In the past few years, many studies about the effects of MRIs on dental materials have been performed with gelled phantoms to mimic the clinical conditions.^{5,6} Those authors reported that the results changed, especially for the heating studies.⁷ An American Society for Testing and Materials (ASTM) standard¹ for radiofrequency heating studies indicates putting the specimens in the gelled media. There is currently no ASTM standard for testing the adhesion strength of materials to the dental alloys after MRI exposure. However, it could be preferred to mimic the clinical conditions during the performance of the tests, because more accurate results would be found.

Sincerely,



Simel Ayyıldız

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Correspondence: Associate Professor Simel Ayyıldız, Dental Health Sciences Center, Department of Prosthodontics, Gülhane Military Medical Academy, Ankara, Turkey. Dr. Gen Tevfik Sağlam Cad. GATA Dis Hek. Bil. Mrk Protez Bl. 06018 Etilik Ankara Turkey. Tel: +90-505-563-6793. e-mail: simelayyildiz@gmail.com