

Importance of Paired *t*-test in Time-based Comparison of Obturation and SealBio Techniques in Root Canal Treatment

Fatih Ozcelik¹, Seyda Ersahan²

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Dear Editor,

We read an article in the May–June issue (2019) entitled “A Regenerative Approach for Root Canal Treatment of Mature Permanent Teeth: Comparative Evaluation with 18 months Follow-up” with great interest.¹ This study has compared the conventional obturation and the SealBio techniques regarding the deposition of a biological barrier at the root apex by the stimulation of periradicular cells and it has been stated that there is no significant difference. However, comparing the techniques only with each other would not provide enough output in the decision-making process. Furthermore, the change depending on the effect of the same technique overtime should also be compared within itself. Therefore, we want to contribute to this issue.

In the study, although there was no difference between the two techniques in terms of PAI scores at all time intervals (6, 12, and 18 months of follow-up), the *p* value has been given as <0.05. If the evaluation was correct, the *p* value of the statistical analysis should be >0.05. Moreover, while comparing the effectiveness of the techniques, if time-dependent changes are also examined, each technique should be evaluated, separately, depending on time by using paired *t*-test.^{2,3} Statistical analysis to be conducted in the dependent groups in such studies will yield more explanatory and stronger results. Namely, it was found that the SealBio group’s preoperative PAI value decreased from 3.6 ± 0.94 to 1.6 ± 1.05 at 6 months in this study. This difference would be statistically significant. While the same is true for the obturation group, the SealBio technique is likely to produce statistically more significant results. Although this does not make a significant difference, it will comment in favor of choosing the SealBio technique in such treatment protocols. Hence, such a result would confirm the view that the SealBio technique makes a more effective biological seal, where stem cells and growth factors are involved in healing, in contrast to conventional obturation providing a mechanical seal.^{4,5}

¹Medical Biochemistry Department, Faculty of Medicine, University of Health Sciences, Istanbul, Turkey

²Department of Endodontics, Faculty of Dentistry, Istanbul Medipol University, Istanbul, Turkey

Corresponding Author: Seyda Ersahan, Department of Endodontics, Faculty of Dentistry, Istanbul Medipol University, Istanbul, Turkey, Phone: +90 212 4401000, e-mail: seydaersahan@hotmail.com

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As a result, using the paired *t*-test while evaluating the time-related effects of techniques for clinical use will increase the strength of the study and provide more detailed evaluations.

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