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Push-Out Bond Strength of Calcium Silicate-Based Materials

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Dear Editor,

We appreciate the interest of Sora Yasri and Viroj Wiwanitkit in our publication: "Push-Out Bond Strength and Surface Microhardness of Calcium Silicate-Based Biomaterials: An in vitro Study" [1]. Below is our response to the comments.

All materials were mixed according to the manufacturers' instructions. Specimens were placed on the vibrator for 30 s after placing the test material to prevent air entrapment and allowing uniform filling of the cavity. The test was performed using the same stainless steel pin and universal testing machine. The apparatus was regularly tested and calibrated.

In addition to the differences in the composition of tested materials, the variations in the dentin structure from the coronal to

the apical area could have influenced the bond strength values [2] because the adhesiveness of a material is directly dependent upon its interaction with the dentin surface [3]. In our study, every effort was made to minimize this effect. Coronal and apical dentin sections were evaluated separately. All dentin sections were cut and cavities were first enlarged to a standardized size, then they were randomly divided into different groups. This ensured the equal chance of each dentin section to be in a particular test material group.

The tested materials are mostly used as root repair materials/retrograde filling or intraorifice barrier except for Biodentine that is used as dentin replacement material. Therefore, they are not directly exposed to the oral cavity and the influence of the biochemical condition of each individual oral cavity will have little or no effect.

References

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