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The push-out bond strength and surface microstructure of tricalcium silicate materials when set in the presence of fetal bovine serum

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The aim of this study was to evaluate the push-out bond strength and surface microstructure of tricalcium silicate materials when set in the presence of fetal bovine serum: Biodentine®, Theracal® and mineral trioxide aggregate by manufacturer's instruction. The specimens were randomly divided into 2 groups (n=20) for each material and then incubated for 4 days at 37°C; control group were then measured by a universal testing machine and the surface morphology of each experimental group was analyzed by scanning electron microscope. Biodentine® and Theracal® showed higher push-out bond strength compared with mineral trioxide aggregate after exposure to fetal bovine serum. In conclusion, the push-out bond strengths of Biodentine® and Theracal® were higher than mineral trioxide aggregate when exposed to blood contamination. Therefore, it is supposed that the use of Biodentine® and Theracal® is appropriate in the presence of blood.

Biography

Sehee Park has graduated in 2012 from Pusan National University. She completed her master's degree in 2016 and is currently in Doctorate Program at the School of Dentistry in Chonnam National University, South Korea. She is eagerly engaged in the field of pediatric dentistry.

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