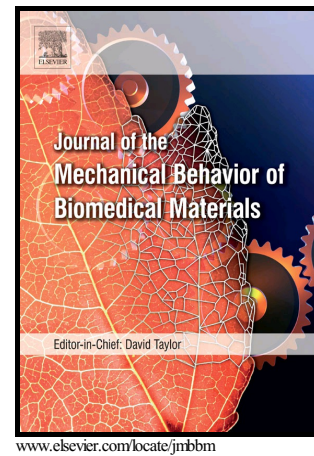


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**Surface micro-morphology, phase transformation, and mechanical reliability of ground and aged monolithic zirconia ceramic**

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**Running title:** Mechanical behavior after grinding and aging of a Y-TZP ceramic

**ABSTRACT**

This study aimed to determine the effects of grinding and low temperature aging on the biaxial flexural strength, structural reliability (Weibull analysis), surface topography, roughness analysis, and phase transformation (t→m) of an yttrium-stabilized tetragonal zirconia polycrystalline ceramic. Ceramic discs (15.0 × 1.2 ± 0.2 mm, VITA In-Ceram YZ) were prepared and randomly assigned into six groups according to 2 factors (n = 30): 'grinding' (Ctrl – without treatment, as-sintered; Xfine – grinding with extra fine diamond bur - 30 µm; Coarse – grinding by coarse

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