Stress Distribution in Components of Dental Implant Under Immediate Loading: A Precious 3D Finite Element Analysis

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Immediate loading has gained a lot of attentions in dental rehabilitation. The goal of the present paper is to evaluate the stress distribution within the dental prosthesis and the bone implant interface using finite element analysis. A precise 3D model of human mandible and prosthesis is employed and subjected to immediate loading. The results show that the stress levels in prosthetic components have not exceeded the failure threshold. The maximum stress occurs at the superficial regions of the cortical part and buccal sides of the interface receive higher stress magnitudes.