

Marginal fit and fracture strength of different types of in-ceram crowns

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The present study was done to investigate In-Ceram alumina, In-Ceram Zirconia and clay In-Ceram crowns cemented using Panavia resin cement as regards marginal fit and fracture strength. Thirty human maxillary incisors free from caries were selected and stored in normal saline solutions. The teeth were prepared to make crowns from the three types of In-Ceram, then divided randomly into three groups, group I for In-Ceram alumina, group II for In-Ceram Zirconia and group III for milled clay In-Ceram crowns. The crowns cemented using resin cement, and the marginal fit was evaluated by measuring the gap distance between the edge of the crown and prepared tooth margin using stereo-microscope. The fracture strength of cemented crowns was evaluated using mechanical testing machine. The results were recorded and statistically analysed using analysis of variance and student T test at $P < 0.05$. The results of marginal fit showed a statistical significant difference between the three evaluated types, P test < 0.05 showed a significant difference between In-ceram alumina and clay In-ceram. While no significant difference between In-ceram alumina and In-ceram zirconia as well as between In-ceram zirconia and clay In-ceram types. The fracture loads were significantly higher in case of In-ceram zirconia than in case of clay In-ceram no significant difference between In-ceram alumina and clay In-ceram was detected. It was concluded that, clay In-ceram showed the best marginal fit, the fracture load in case of In-ceram zirconia crowns were significantly higher than In-ceram alumina and clay in-ceram crown.

Biography

Mohamed I. Hashim has completed his PhD at the age of 34 years from Al.-azhar University and postdoctoral studies from Al.-azhar University Dental School Egypt. He has published more than 11 papers in reputed journals.

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