Influence evaluation of the investments and use of die spacers on the marginal fit of Ti-cp crowns

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The aim of this study was to evaluate the effect of the use of die spacers and two investments on the marginal fit of cast crowns in cp-Ti. From a metallic matrix with beveled finish line, were obtained 60 resin stone dies, and 30 for each investment (Rematitan Plus (P) and Rematitan Ultra (U)). Each group was subdivided into three subgroups of 10 specimens under the conditions: no spacer (A), a layer (B) and two layers of spacer (C). After casting, each crown, adapted to the metal matrix by means of a device standardizes pressure was brought to an optical microscope for measurements of marginal discrepancy. Additionally performed a test setting expansion and thermal expansion of investments. For the assay of thermal expansion, the investments were handled according to the manufacturer's instructions and poured on the dilatometer Digimess. Readings were taken every minute until the final setting time was completed, and then converted to percentage of setting expansion. For the test of linear thermal expansion was used dilatometer NETZSCH DIL 402 C. The investments, handled according to the manufacturer's instructions, were poured over an array, with dimensions of 25 mm in height and 6 mm in width, being kept there until the final setting of the investment. The ingots were brought to the investment dilatometer and subjected to thermal cycle recommended by the manufacturer. We obtained dimensional graphs representing the investments behavior, besides the final measures of linear thermal expansion percentage. The data (µm) were normally distributed and were subjected to statistical analysis (ANOVA) and Tukey test (p <0.05). There was significant difference for condition spacer (A > B > C), for investment (P> U) and interactions. With respect to the coefficient of setting expansion and termic linear expansion, the Rematitan Ultra had the lowest rates. The investment Rematitan Ultra associated with two layers of spacer had the lowest misfit. It becomes essential to use the resource room for clinically acceptable margins are obtained with the cp-Ti material.

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