EXTRA CORONAL RESTORATIONS: EXCELLENCY OF MARGINAL ACCURACY AND RETENTION

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ABSTRACT

The in vitro study evaluated the influence of dentin roughness, internal crown treatment and Type of agent on the marginal accuracy and retention of complete past crowns. Standardized Preparations were made using a modified milling machine with diamond, cross-cut carbide, and car-bide finishing burs of similar shape (n==54 per group). Standardized crowns were made using the in- direct technique. The crowns of each group were randomly subdivided according to the treatment of the filling surface (air-abraded, tin-plated and control) and luted with glass-ionomer (Ketac-CEM) adhesive resin (Panavia-EX), or zinc phosphate (Fleck's) cement, again randomly assigned. Marginal acccuracy was measured on a Nikon Measurescope before and after cementation and re-tention measurements were recorded with Instron testing machine. The results were subjected to ANOVA and REGW Multiple Range Test. For retention measurements, there were significant dif-ferences the .tooth preparation groups, internal crown treatment and luting cement or be-tween each combination (P<O.05). The highest value (548 N) for tin-plated crowns with adhesive resin on preparations finished with carbide burs and the lowest value (125 N) for as-cast crowns ce-mented With zinc phosphate cement on finishing bur preparations. Also marginal accuracy was sig- nificantly different (P<O.05) with the lowest mean was 28 um for finishing bur preparations with atr-abraded crowns luted with adhesive resin cement and the highest mean was 283 um for as cast crowns cernented with zinc phosphate cement on teeth prepared with crosscut carbide burs.

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