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KEYWORD : DENTAL PORCELAIN / DENTAL POLISHING / FINISHED PORCELAIN / GLAZE

SUWADEE AERARUNCHOT ; COMPARISON THE SURFACE SMOOTHNESS OF PORCELAIN

TREATED WITH VARIOUS FINISHING TECHNIQUES. THESIS ADVISOR ; VISE.PROF.


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The surface of porcelain used in fixed prosthesis need to be smooth and shine. However, due to the limitations in certain clinical situation, glazing is not always possible. An alternative method to establish proper finishing of porcelain surface is to polish with suitable instrument and method. This study evaluate the effect of various finishing technique on the surface roughness of Vita VMK95 (total 67 specimens). At first, 22 specimens were divided into 2 groups according to the initial surface roughening procedures. 11 specimens were subjected to surface roughening procedure using green stone bur while 11 specimens were subjected to surface roughening procedure using diamond bur (15 micron). 44 specimens were subjected to surface roughening procedure using green stone prior to polishing procedure. Four methods of polishing used in this study were 1.Shofu adjustment kit 2.Dia-finish 3. Two-striper diamond paste 4.natural glaze and 5. Applied glaze as the control group. Surface roughness (Ra) were measured before and after each polishing technique using SEM (x200 and x1000) and profilometer (Mitutoyo Surftest). The values of each group were compared by t-test, ANOVA and Turkey-HSD test ( $\alpha=0.05$ ) with the value of statistical significance set at the  $p < 0.05$  level. The surface roughness of porcelain adjusted by green stone was significantly lower than the diamond bur ( $P < 0.05$ ). No statistically significant differences were found between the initial and the final adjusted samples in Two-striper diamond paste ,while 3 other polishing methods indicate significant differences ( $P < 0.05$ ) between the initial and the final adjustment. Significant differences were found between the natural glaze and the other groups ( $P < 0.05$ ). Natural glaze produced higher value of surface roughness, but there were differences result between each methods when investigated by SEM.

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