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Evaluation of complications observed in porcelain fused to metal crowns placed at a teaching institution

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Porcelain Fused to Metal (PFM) crowns is commonly placed worldwide. Various complications have been reported in the PFM crowns with use over the period of time. These includes chipping of the porcelain, recurrent caries, loss of retention, open contacts and tooth fracture. The objective of the present study was to determine the frequency of these complications in crowns cemented over a period of five years in a tertiary care hospital and also to report the survival of these crowns. A retrospective study was conducted in dental clinics, Aga Khan University Hospital in which 150 PFM crowns cemented over a period of five years were evaluated. Patient demographics, oral hygiene habits, para-functional habits, crown insertion and follow-up dates were recorded in a specially designed proforma. All PFM crowns fulfilling the inclusion criteria were assessed both clinically and radiographically for the presence of any complication. SPSS version 22.0 was used for statistical analysis. Frequency distribution and proportion of complications were determined. Chi-square test was used to determine the association of complications of PFM crowns with multiple variables including tooth wear, opposing dentition and betel nut chewing. Kaplan-Meier survival analysis was used to determine the survival of PFM crowns over the period of five years. A total of 107 patients, with mean age of 43.51±12.4 years, having 150 PFM crowns were evaluated. The most common complication observed was open proximal contacts (8.7%) followed by porcelain chipping (6%), decementation (5.3%) and abutment fracture (1.3%). Chi square test showed that there was no statistically significant association of PFM crown complication with patient related factors (p-value>0.05). The overall success and survival rates of PFM crowns turned out to be 78.7% and 84.7% respectively. Within the limitations of the study, it can be concluded that PFM crowns is an effective treatment modality with high success and survival rates.

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