

Risk of chipping or facings failure of metal ceramic fixed partial prostheses-a retrospective data record analysis.

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Source

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Abstract

This retrospective study investigated the frequency and time history of chipping or facings failure of three-unit and four-unit tooth-supported metal ceramic (MC) fixed partial prostheses (FPDs). Six hundred fifty-four MC FPDs were inserted according to a standardized treatment protocol at the Department of Prosthodontics of the Regensburg University Medical Center between 1984 and 2009. Frequency and time history of chipping or facings failure as well as possible risk factors were evaluated on the basis of historical clinical data. We estimated the survival times of FPDs by means of the Kaplan-Meier analysis. The 5-year survival rate (time to renewal of a FPD) of all MC FPDs was 94%; the 10-year survival rate was 87%. Twenty-eight (4.3%) MC FPDs showed chipping; the 5-year free-of-event rate of chipping was 95%, the 10-year rate was 94%. Possible risk factors had no statistically significant influence on chipping or facings failure. The annual hazard rate of MC chipping in the first year was 0.03, i.e., 3 out of 100 person-years of exposure showed chipping. The annual hazard rates for the next 6 years dropped to 0.009, 0.003, 0.007, 0.004, 0.005, and 0.007. Thus, about 3-9 out of 1,000 person-years of exposure showed chipping. Patients with MC FPD may expect a long survival rate of their restoration. During the first year, the risk of chipping may be higher than during the following years. Despite the long period of experience with MC FPDs, chipping of the facing will still occur.