

Radiographic assessment of proximal surface carious lesion progression in Chilean young adults

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Objective: To investigate the rate and associations of interproximal carious lesion progression.

Methods: Retrospective data were analysed from 125 young adults (age range: 18-29 years) with repeated bitewing radiographs collected over a 6-year period. Participants were submitted to different protocols of radiographic examination frequency. Transitions from outer enamel to outer dentine (OE-to-OD) and from outer dentine to dentine (OD-to-D) were selected because of their clinical relevance. Factors associated with each transition were assessed in Cox regression models.

Results: One hundred seven (85.6%) and 52 (41.6%) participants experienced OE-to-OD and OD-to-D transitions, respectively. In addition, 16.8% of 537 eligible surfaces progressed from OE-to-OD whereas 59.4% of 128 eligible surfaces progressed from OD-to-D. Incidence rates were 6.6 and 44.1 per 100 tooth surface-years, respectively. Mean survival time for OE-to-OD transition was 6.4 years (95% confidence interval: 6.0-6.9) and the median survival time for OD-to-D transition was 1.6 years (95%CI: 1.3-1.7). In adjusted Cox regression models, location in the lower jaw (hazard ratio: 0.34; 95% CI: 0.21-0.57) was inversely associated with OE-to-OD progression. In addition, proximal DMFS at baseline (HR: 0.93; 95%CI: 0.87-0.99) and location in the lower jaw (HR: 0.51; 95%CI: 0.26-0.99) were inversely associated with OD-to-D progression. **Conclusions:**

This group of Chilean young adults has a high progression rate of proximal caries lesions. Location of the caries lesion and proximal DMFS were the only factors associated with caries progression. ©

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caries progression

proximal caries

survival

