# Carious cervical lesions



## BACKGROUND

With improved health, both overall and orally, more patients are retaining more teeth than in past generations. In addition, gingival recession increases with aging, and the older generations now existing are more likely to have their cervical dentinal surfaces exposed to the oral environment and to have a higher risk for developing root caries lesions. Generally, annual failure rates (AFRs) at 5 to 10 years less than 6% are considered clinically acceptable. The AFR for class V restorations of noncarious cervical lesions (NCCLs) has been reported to vary from 1.9% to 5.8%, whereas that for class II restorations varies between 0% and 6%. In a university setting, the cumulative failure rates after 2 years has been reported to be between 27% and 96%, whereas in private practice settings, cumulative failure rates tend to vary from 6% after 3.5 years to 40% after 5 years. A retrospective, noninterventional, multicenter, practice-based study was conducted to evaluate factors that might influence the long-term survival of restorative treatments of active 1- and 2-surface cervical root caries lesions (CCLs) in various private practice settings.

## METHODS

The records of regular attenders in 5 private practices were searched for active 1 and 2-surface CCLs. A total of 1167 patients were found to have 2070 CCLs detected at least 6 months before the last recall visit. Statistical methods were used to analyze the relationship between various clinical factors and time until failure for these lesions.

## RESULTS

Patients' mean age was 57 years. They had 1190 1-surface CCL restorations and 880 2-surface CCL restorations. Over the mean follow-up period of 50 months, 89% of the restorations were considered successful, requiring no further interventions. Seven percent of the 1-surface restorations and 15% of the 2-surface restorations received a second restorative treatment. AFRs were 1.82% for the 1-surface restorations and 3.25% for the 2-surface lesions.

Factors found to be strongly associated with a higher failure rate were number of restored surfaces, age, sex, dentist, number of check-ups per year, decayed-missing-filled teeth (DMFT), and risk level of caries. When multivariate regression was applied, the 2-surface CCL restorations had a 1.75 times higher failure rate than the 1-surface CCL restorations. Restorations in CCLs that were checked at least twice a year had a significantly higher failure rate than those checked less than twice a year.

Re-interventions by tooth extraction were usually related to changes in the prosthetic treatment plan, periodontal failure, or endodontic failure. They were not usually associated with a failed restoration. When extracted teeth were eliminated from further analysis, mean overall survival time decreased slightly from 172 (range 165 to 179) months to 170 (163 to 177) months. The hazard ratio (HR) changed slightly from 1.751 to 1.753 for 2-surface CCL restorations, from 1.939 to 1.988 for 1-surface CCL restorations, and from 7.62 to 7.147 for more than 2 check-ups per year. The significant predictive factors remained significant.

## DISCUSSION

Both the number of restored surfaces and the number of check-ups per year were related to a higher rate of CCL restorations. Good longevity was found for both restoration types.

### Clinical Significance

CCL restorations are an acceptable intervention for 1-surface CCLs. However, the proximal extension of the CCL can significantly shorten the restoration's longevity.

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