COMMENTARY

INCIDENCE OF NONCARIOUS CERVICAL LESIONS AND THEIR RELATION TO THE PRESENCE OF WEAR FACETS

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This study assessed the incidence of noncarious cervical lesions in first-year dental students and related the lesions to whether or not wear facets were present. The study then re-examined the students in three years to see if new lesions developed on teeth with pre-existing wear facets. This study is unique in that it looked at the early lesion rather than at the large well-formed lesions and it related new lesion development to occlusal factors. They found that almost 87% of all teeth with lesions had wear facets.

That occlusally generated stress may play a role in the development of some noncarious cervical lesions goes unrecognized by many clinicians. The mechanism is poorly understood largely due to its multifactorial development. Although the theory of the development of these lesions has not been proven, there is a significant body of evidence suggesting that the correlation between the occlusally generated stresses and the formation of the lesions is real.[1–3] It is well established that the cusps of teeth flex under loading, and numerous finite element studies[4–7] have shown concentration of stresses in the cervical region under occlusal loading. Additionally, many clinicians have seen the correlation in their patients with these lesions and reports have been seen in the literature over several decades. Many of the failed restorative treatments of these lesions can be attributed to the flexing of the teeth.[8] The lack of management of the occlusal forces can contribute to debonding and restoration failure.[9,10] When occlusal forces are ignored and the lesions are restored, often the lesions will progress around the borders of the restorations (Figure 1).

This study, in looking at a young group of students, was able to discover lesions at an early stage of development. Additionally, they were able to correlate the development of new lesions with occlusal wear facets. This should point out the importance to clinicians of looking for lesions early in their development so that corrective measures can be employed before the lesions become large and symptomatic or jeopardize the integrity of the pulp or the tooth itself. All too often the occlusion is not taken into consideration. Perhaps, those of us in dental education should re-examine our curricula to see how the principles of occlusion are applied to the clinical setting.

Figure 1. Lack of management of the occlusal forces permitted the progression of the lesion even after restoration as seen coronal and apical to the gold foil. Wear on the gold from toothbrushing can also be seen as a secondary factor.

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