Cervical Lesions: A Tricky Area to Manage

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Cervical lesions are of great concern to a dentist and is a challenging task to be successfully restored. Their prevalence is likely to increase many fold, as the population grows.

The location of these cervical lesions at times pose great difficulty in being satisfactorily restored by the dentist. Over 90 % individuals worldwide suffer from these difficult to be restored lesions.

According to tooth flexure theory as the tooth flexes, the cervical areas are subjected to an axial compression load, which leads to tensile and shear stresses in cervical areas acting at right angles to an axial load. Thus there is breakdown of the bonds between the hydroxyapatite crystals, which causes crack formation and propagation, which eventually results in enamel loss. This is known as 'abfraction', which are wedge-shaped defects that are formed on buccal aspects of teeth.

Treatment of Class V lesions presents a unique challenge. GIC and Composites are used which flex along with the tooth, but micro leakage and loss of marginal integrity is still an issue. We should prefer using packable composites, flowable and GIC to restore such areas keeping in mind that young’s modulus of elasticity should be higher so as to adjust for any flexion is such cases. Also, those patients with trauma from occlusion will also most likely present with such non-carious lesions and it becomes pertinent to first correct their underlying cause of TFO before restoring such lesions, as there may be an increased failure chances.

The problems encountered with restoring such defects lie in the undefined margins of the cavity and overfilling which irritate the tissue and the patient, also finishing and polishing should be properly accomplished to limit future re-restorations.

Another challenge is eliminating or reducing the gap formation on the gingival wall. The simple fact of working with cavities on opposite walls from dissimilar tissues like dentin and enamel already creates intrinsic problems. Managing their completely different adhesive behavior is one aspect that should not be overlooked.

Several restorative techniques have been proposed to minimize microleakage, as polymerization shrinkage at gingival level creates gap formation, to reduce such micro gap formation layering technique should be employed, with incremental build up usually employing two or three increments. The last one will be placed on the enamel margin.

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