

Influence of cervical margin relocation (CMR) on periodontal health: 12-month results of a controlled trial

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Aim of the study: Cervical Margin Relocation consists on placing a base of direct resin composite to elevate the proximal underneath indirect bonded restorations. The aims of this clinical study were to evaluate 1. BoP on posterior indirect restorations with one interproximal margin relocated cervically, and 2. possible correlation between depth of the interproximal margins and Bleeding on Probing (BoP).

Methods: Cervical relocated margins (CMR, Group 1) and shoulder preparations (Group 2) were placed in 35 posterior teeth and evaluated after 12 months (T12). Cavities' margins were placed below the CEJ. In one proximal box CMR procedure was performed using G-Premio Bond, for dentin hybridization, and universal flow resin composite (GC Co. Tokyo, Japan). Pressed lithium disilicate crowns (LS2) (LiSi Press, GC Co.) were made and luted with proprietary luting material. At baseline and after 12 months, the restorative margin position in relation to the gingival margin was recorded quantifying it in mm by probing and also the distance from the bone crest was calculated. Statistical analysis was performed.

Results: CMR was associated with statistically significant increased scores for BoP. Gingival Index (GI) and Plaque Index (PI) were not statistically different between the groups. At the end of the experimental period, 53% and 31.5% of sites (Group 1 and 2 respectively) were positive to BoP: this difference was statistically significant ($p=0.10$). The linear distance between the bone crest and the restorative margin, assessed by a radiographic analysis, was 2 mm in 13 out of 19 experimental sites of group 1 and 6 out of 11 of group 2.

Conclusions: Within the limitations of this study, higher incidence of BoP can be expected around CMR margins and in coincidence with deep margins placed at or closer than 2 mm from bone crest.