Effect of Curodont™ Repair in Patients with Proximal Carious Lesions: Uncontrolled, Non-Interventional Study – intermediate report

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1 abstract
The prevalence of caries on the proximal tooth surface is high and the interdental location of the lesion a challenging site for treatment. In this study patients with early proximal caries (E1 and E2) are treated with the regenerative product Curodont™ Repair. It contains P11-4, a self-assembling-peptide (SAP), that is applied as a solution onto the lesion surface. P11-4 then diffuses into the subsurface body of the early carious lesion where it forms a 3-D fibril network. In the process of a few months Ca²⁺ and PO₄³⁻ ions, excessively present in the patient’s saliva, attach to the nucleation sites of the P11-4-network and induce formation of de novo hydroxyapatite (HA) crystals [1]. The aim of the present study is to evaluate the efficacy of Curodont™ Repair in respect to regenerating enamel in patients with early proximal caries.

2 material and method
25 patients with an early, untreated, proximal carious lesion (E1 and E2) are enrolled in this prospective study and treated with a single Curodont™ Repair application. Follow-ups are 6 (D₁₈₀) and 12 months (D₂₁₀) after treatment (D₀). Assessments on each visit are:
- VAS progression & size (visual analogue scale, -50 mm to +50 mm)
- standardised x-ray

3 results
The study is on-going. 10 patients (19-59 years old, 5 male, 5 female) with 6 months (D₁₈₀) data were available for interim analysis and assessed by investigators (figure 1-3).

4 discussion
Preliminary results of 10 patients with 6 months follow-up demonstrate in-depth remineralisation of the lesion after treatment with Curodont™ Repair. Digital subtraction analysis demonstrated increased remineralisation within the subsurface lesions and was confirmed by clinical assessment supporting the biomimetic mineralisation approach first presented by Kirkham et al. [1]. So far 6 months data of the first 10 patients are promising - nevertheless, more data is needed to show the long-term-effect of the treatment.

5 conclusion
Biomimetic mineralisation with Curodont™ Repair is a painless, tooth-preserving, biological treatment for in-depth remineralisation that seems to be a promising approach for the treatment of early, progressing, interdental carious lesions. In respect to the challenging interdental treatment site, its application is convenient and fast.

literature