Peri-implantitis treatment using a pocket irrigator/evacuator  
- clinical, microbiological and pain outcomes -

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Abstract

The most effective approach to treat peri-implantitis remains to be found. Recently, a new pocket irrigator/evacuator device (IED), the Fluxion®, based on an alternated interplay between vacuum and fluid (water), has been introduced.

Results

<table>
<thead>
<tr>
<th></th>
<th>T0</th>
<th>T3</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BoP (%)</td>
<td>Median [IQR]</td>
<td>Median [IQR]</td>
<td></td>
</tr>
<tr>
<td>PI (%)</td>
<td>67 [60.88]</td>
<td>67 [33.72]</td>
<td>0.017*</td>
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<tr>
<td>SoP (%)</td>
<td>31 [0.50]</td>
<td>12 [0.28]</td>
<td>0.088</td>
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<tr>
<td>PPD (mm)</td>
<td>4.92 [±1.28]</td>
<td>4.66 [±1.35]</td>
<td>0.041*</td>
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</tbody>
</table>

*Statistically significant difference between baseline and 3 months after the last (6th) treatment (p < 0.05, power 95%).

Microbiological testing

Peri-implant microbiological outcomes did not show a significant difference between T0 and T3. High detection frequencies were found at implant sites for Tannerella forsythia, Parvimonas micra and Fusobacterium nucleatum (found in respectively 20, 22 and 23 patients). The lowest frequencies were found for Aggregatibacter actinomycetemcomitans, Prevotella intermedia and Treponema denticola which were found in 3, 6 and 8 patients at baseline, respectively.

Patient pain perception

A pain-score of 0.41 ± 0.91 (VAS-pain score scale 0-10) after the first treatment was found. A reduced pain score of 0.05 ± 0.21 was found after the last (6th) treatment (p = 0.039).

Background and Aim

A periodontal study showed decreased probing pocket depths and reduced bleeding on probing when using the IED. Moreover patients reported less pain after treatment compared to conventional treatment. Whether the pocket irrigator can be used for treatment of peri-implantitis seems unknown. The aim of the present prospective cohort study was to assess the clinical and microbiological effects and patient-reported pain in the non-surgical treatment of peri-implantitis using the IED.

Methods and Materials

In total 24 adult patients with 42 implants diagnosed with moderate to severe peri-implantitis (bone loss ≥ 2mm in combination with bleeding and/or suppuration on probing) were included in this prospective cohort study. Peri-implant pockets were irrigated twice a week during a period of three weeks consecutively (6 times in total). Clinical outcomes (probing pocket depth, bleeding on probing (%), suppuration score (%), plaque score (%)) and microbiological testing were assessed at baseline and at 3 months (T3) after the first treatment. Patient pain perception related to the treatment method was evaluated using a Visual Analog Scale (VAS) after the first and last (6th) treatment.

Conclusion

Results of this prospective cohort study indicate that, although beneficial effects were found in terms of reduced bleeding on probing (%), reduced plaque score (%) at 3 months after treatment and reduced pain perception, the IED does not seem to effectively treat moderate to severe peri-implantitis in terms of disease resolution.

References