Preliminary Data on Periodontal Disease Treatment Using Topical Oxidizing Agents

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**Purpose**
The aim of this study was to evaluate preliminary data of a multi-year, multi-clinic study of the Perio Protect Method® (PPM) in treating periodontal disease at 3 separate dental clinics.

**Introduction**
Periodontal disease is characterized by the presence of pathogenic bacteria that affects the tissues surrounding and supporting a tooth. Due to the presence of destructive bacteria, periodontal disease may cause inflammation of the gingiva (gum), which can lead to destruction of supporting bone and loss of teeth. Significant differences in pocketed and BOP among groups were observed at baseline. All groups showed significant improvement from baseline in PPD and BOP (p<0.001) except for group 2 which was unchanged on PPM (Figure 2 and 3). At follow-up, all groups improved in closed pockets with no significant differences among groups (p=1.0000, group 2=0.0624, 3-group=1.62e-07). All but one subject (Group 3) showed significant improvement in closed pockets (range all groups=0.54-55.7%). Group 3 had significantly greater improvement in BOP (p=0.0800 at follow-up vs group 1 (17.8183% p=0.003) and group 2 (49.9312% p=0.001).

**Method**
- **Patient Selection**: Subjects included both males and females from ages 25-80 obtained from 3 general practice dental clinics.
  - **Inclusion factors**: Subjects committing to a one year study by signing a written informed consent form prior to treatment, presence of gingivitis or periodontal disease (determined by periodontal examination) which has not been treated for 1 month pre-study, and available dental records for 1 year pre-study.
  - **Exclusion factors**: SRP within the last 3 months, periodontal surgery in the last 6 months, current orthodontia, and physical or mental inability to use dental trays associated with PPM.

**PPM Treatment Protocol**: All subjects received instructions in supra-gingival care and PPM use with an oxidizing agent (1.7% hydrogen peroxide). Custom-made Perio Trays® were fabricated and delivered to each subject (Figure 1). Post PPM, treatment initiation, Dentist 1 performed quadrant and/or site-specific SRP. Dentist 2 performed full mouth SRP prior to initiating PPM protocol, and Dentist 3 performed only site-specific SRP (Table 1). Daily usage varied by disease severity and doctor preference - most commonly were trays used twice daily for 10 minutes per session.

**Results**

**Table 1: Amount of scaling and root planning performed at each dental clinic. (Scaling and root planning - SRP) Quadrant 2**

<table>
<thead>
<tr>
<th>Dentist</th>
<th>Quadrant 2</th>
<th>6 to 7 mm</th>
<th>4 to 5 mm</th>
<th>0 to 3 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctor 1</td>
<td>11</td>
<td>9</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Doctor 2</td>
<td>10</td>
<td>10</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Doctor 3</td>
<td>7</td>
<td>7</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

**Table 2: Data of 3mm PPD from initial to compared to 3 months site**

<table>
<thead>
<tr>
<th>Doctor</th>
<th>Initial 3mm PPD</th>
<th>3 months 3mm PPD</th>
<th>Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctor 1</td>
<td>747</td>
<td>725</td>
<td>2.0%</td>
</tr>
<tr>
<td>Doctor 2</td>
<td>761</td>
<td>752</td>
<td>1.7%</td>
</tr>
<tr>
<td>Doctor 3</td>
<td>725</td>
<td>725</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

**Conclusion**
This study shows that good results can be obtained within 3 months regardless of dental practitioner. In addition, by performing only site specific SRP when indicated as done in Group 3, PPM has the potential to decrease need for extensive invasive dental procedures in early stage periodontal disease.

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**References**