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<th><strong>Title</strong></th>
<th>Full-mouth disinfection versus one-stage mechanical debridement in the management of adult periodontitis - microbiological morphotype monitoring</th>
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<tr>
<td><strong>Author(s)</strong></td>
<td>Corbet, EF; Koshy, G; Leung, WK; Jin, LJ</td>
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<td><strong>Citation</strong></td>
<td>The 15th Annual Scientific Meeting of the International Association for Dental Research (Southeast Asian Division), Taiwan, 2-4 October 2000. In Journal of Dental Research, 2001, v. 80 n. 4, p. 1385, abstract no. P-42</td>
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In the present study, both test and control groups had significant shift from pathogenic morphotypes to beneficial species was observed. At baseline, one month, three months and six months, a blinded clinical study was conducted to determine whether full-mouth disinfection had any additional microbiological benefits, as determined by microbiological morphotype monitoring, over a one-stage mechanical debridement of all teeth without adjunctive CHX.

**AIM**
To determine whether full-mouth disinfection has any additional microbiological benefits, as determined by microbiological morphotype monitoring, over a one-stage mechanical debridement of all teeth without adjunctive CHX.

**MATERIALS AND METHODS**

- **Study Design**
  - Randomised, single-blinded, controlled, parallel clinical study
  - 32 systemically healthy, non-smoking subjects aged 35-60 years old (mean 46.3 ± 7.5 yrs).
  - Random allocation into test (n=16) and control groups (n=16).

- **Clinical parameters**
  - The control group received mechanical debridement in one visit which included scaling to remove detectable calculus and root planing of pocket sites of all remaining teeth. The test group underwent full-mouth disinfection (modified version of the original protocol by Quirynen et al,1995).

- **Microbiological monitoring**
  - At baseline, one month, three months and six months, subgingival plaque samples were collected from the deepest pockets in each quadrant and pooled for each subject.
  - The site was isolated with sterile cotton rolls and supragingival plaque was removed gently using sterile cotton pellets. Subgingival plaque samples were collected by means of one medium sized sterile paper point inserted into the depth of the pocket and kept in place for 10 seconds.
  - The samples were transferred into a sterile screw capped vial containing 0.5 ml of sterilised phosphate buffered solution (PBS) and transported to the laboratory for processing.
  - All samples were vortexed for 1 minute and a drop of suspension from the vortexed solution was smeared onto a clean microscopic slide, air dried and silver stained (Coffey et al, 1995)².

- **Statistical analysis**
  - For differential counts of smears, spirochaetes and curved rods were grouped together for evaluation. The mean proportions of spirochaetes and curved rods and their reduction following treatment were compared in both groups. The change in the proportion of cocci was also noted.

**RESULTS**
For differential counts of smears, spirochaetes and curved rods were grouped together for evaluation. The mean proportions of spirochaetes and curved rods and their reduction following treatment were compared in both groups. The change in the proportion of cocci was also noted.

Mean proportion of spirochaetes and curved rods (SpCR%).

Following treatment, there was a marked drop from baseline in the mean proportions of the spirochaetes and curved rods (paired t-test, p<0.001) to levels within the healthy limits in both groups which were maintained until 6 months (Figure 1).

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**DISCUSSION**

- In the present study, both test and control groups had significant microbiological improvements following treatment. There was a significant decrease in pathogenic bacterial load after one stage mechanical debridement regardless of the use of CHX.
- Differential counts of plaque smears were used to monitor the changes in the microbial load due to the treatment, as this method is simple, easy, inexpensive and gives an overview of the microbial flora in terms of morphotypes present in the subgingival plaque.
- The silver stain is a simple, inexpensive and rapid method for differential counting of subgingival plaque flora. There is no limitation of time in counting silver stained samples, a permanent mount can be obtained and no special microscope is required.
- A shift from pathogenic morphotypes to beneficial species was noted. Both treatments reduced the microbial load indicating that CHX in the treatment protocol had very little or no effect. In a similar study, Quirynen et al. (2000)² also failed to show any significant differences in the microbiological parameters when comparing full-mouth disinfection with a full-mouth scaling and root planing.

### CONCLUSION
Full-mouth disinfection confers no additional microbiological benefits over a one-stage mechanical debridement in adult periodontitis patients.

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### References