

Implant Maintenance with a Chitosan Brush – A Randomized Clinical Trial

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Hypothesis and /or aim

The null hypothesis of this study was that there will be no difference in reduction of clinical signs of peri-implant inflammation after use of either a chitosan brush or a titanium curette. The aim of this study was to compare the clinical use of a chitosan brush with a standard implant maintenance protocol using regular titanium curettes.

Materials and Methods

This was a 6 months, randomized, split mouth, examiner blinded, clinical trial including 11 patients diagnosed with peri-implant mucositis. Implants were randomized to either treatment with a rotating chitosan brush using a slow speed dental bur piece or titanium curettes. The treatment was repeated at three months. Examinations included probing pocket depths (PPD), bleeding on probing (mBoP) and intraoral radiographs. Differences between groups in change in clinical parameters were compared at 2 weeks, 4 weeks and 6 months. Pain from the two different treatments was scored using a visual analog scale. Mann-Whitney U tests with an alpha level of 0.05 were used for statistical analyses.

Results

Both groups demonstrated significant reductions in mBoP from baseline to 6 months. The test implants treated with the chitosan brush had better improvement in mBoP at 2 weeks and 4 weeks compared with the implants treated with the titanium curettes. The reduction in PPD was significantly better in the test group at 4 weeks. One patient in the test group and 4 patients in the control group reported a level of pain at treatment indicating that anesthesia had been preferable. All implants had stable bone levels at the terminal examination as seen on radiographs.

Conclusion

Both treatment strategies lead to reduced inflammation and a chitosan brush seemed to be a safe and efficient device for maintenance of dental implants.

Publication

Poster presented at IADR GENERAL SESSION CAPE TOWN, SOUTH AFRICA, 25-28 June 2014. A publication has also been submitted to the scientific journal of The European Association of Osseointegration; Clinical Oral Implant Research and is under Peer Review.