



WESTSIDE OMS ORAL SURGERY & DENTAL IMPLANT CENTER

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Fall 2014 ~ A Quarterly Update

Dear Colleague:

Each year we continue to see growth and development in our practice accompanied by an increase in treatment success. Through this quarterly newsletter, we wish to share with you some of the latest developments in oral surgery and implant dentistry, as well as open communication with your office.

If we can provide any additional information, or if you would like to see an article on a particular topic in our next issue, please do not hesitate to call. We appreciate the trust you place in us by allowing us to participate in the care of your patients.

Regards,

Dr. Rupi Dhadli

Implant Treatment in Atrophic Posterior Mandibles: Vertical Regeneration with Block Bone Grafts versus Implants with 5.5-mm Intrabony Length

Peñarrocha-Oltra D, Aloy-Prósper A, et al. Int J Oral Maxillofac Implants. 2014 May-Jun;29(3):659-66

The purpose of this study was to retrospectively compare the outcomes of implants placed in posterior mandibles vertically regenerated with onlay autogenous block bone grafts and short dental implants. Consecutive patients with vertical bone atrophy in edentulous mandibular posterior regions (7 to 8 mm of bone above the inferior alveolar nerve) were treated with either implants placed in regenerated bone using autologous block bone grafts (group 1) or short implants (with 5.5-mm intrabony length) in native bone (group 2) between 2005 and 2010 and followed for 12 months after loading. The procedure used was the established treatment protocol for this type of patient at an oral surgery unit at the time of surgery. All grafts were obtained using piezosurgery. The outcomes assessed were: complications related to the procedure, implant survival, implant success, and peri-implant marginal bone loss.

Thirty-seven patients were included, 20 (45 implants) in group 1 and 17 (35 implants) in group 2. In group 1, 13

implants were less than 10 mm long (2 were 7 mm and 11 were 8.5 mm), and 32 were 10 mm or longer; the diameter was 3.6 mm in 6 implants, 4.2 mm in 31, and 5.5 mm in 8. In group 2 all implants were 7 mm long; the diameter measured 4.2 mm in 14 implants and 5.5 mm in 21 implants. Complications related to the block bone grafting procedure were temporary hypoesthesia in one patient, wound dehiscence with graft exposure in three patients, and exposure of the osteosynthesis screw without bone graft exposure in one patient. After 12 months, implant survival rates were 95.6% in group 1 and 97.1% in group 2; success rates were 91.1% and 97.1%, respectively. The average marginal bone loss was 0.7 mm in group 1 and 0.6 mm in group 2. *When residual bone height over the mandibular canal is between 7 and 8 mm, short implants (with 5.5-mm intrabony length) might be a preferable treatment option over vertical augmentation, reducing chair time, expense, and morbidity.*

Zirconia Dental Implants: A Clinical, Radiographic, and Microbiologic Evaluation up to 3 Years

Brüll F, van Winkelhoff AJ, et al.

Int J Oral Maxillofac Implants. 2014 Jul-Aug;29(4):914-20

The purpose of this study was to retrospectively evaluate the clinical performance of zirconia endosseous implants. Partially edentulous patients with adequate bone volume to fit yttria tetragonal zirconia polycrystal (Y-TZP) implants at least 3.5 mm wide

continued on page 2

Dr. Dhadli is dual degreed Oral and Maxillofacial Surgeons both a physician and dental surgeon. Dr. Dhadli attended Dental School and Medical School at Case Western Reserve University. She furthered her training and education through a 5 year intensive residency program in Oral and Maxillofacial Surgery and Anesthesia at University Hospitals of Cleveland, OH, Mt. Sinai Medical Center, Rainbow Babies and Children Hospital, and Metrohealth Medical Center in Cleveland, OH.



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Zirconia ...continued

and 8.0 mm long were included. Full-mouth probing pocket depth (PPDs) and percentage bleeding on probing (BOP) scores around teeth and implant(s) were assessed and compared. Marginal bone loss/gain relative to baseline was measured on intraoral radiographs, and the prevalence and quantities of seven periodontal bacteria were assessed around implants and teeth in the same patient. Seventy-four consecutively treated patients with 121 zirconia implants (66 two-piece implants and 55 one-piece implants) were clinically evaluated after a mean observation period of 18 months.

Three implants had failed and had been removed, for a cumulative implant survival rate of 96.5% after 3 years. The 118 surviving implants demonstrated healthy mucosal conditions, with low mean PPDs (1.8 mm) and mean BOP scores (4.1%). PPD and BOP were statistically significantly lower around implants than around teeth. BOP and PPD around implants and teeth were significantly correlated. Stable marginal bone levels were observed (mean bone loss of 0.1 mm after 3 years). The frequency of isolation of all marker bacteria was similar at tooth and implant sites. *The authors concluded that Zirconia endosseous implants can achieve a 3-year implant survival rate in partially edentulous patients, similar to that of titanium implants, with healthy and stable soft and hard tissues.*

Immediate Provisionalization of Dental Implants Placed in Healed Alveolar Ridges and Extraction Sockets

Cooper LF, Reside GJ, et al. *Int J Oral Maxillofac Implants.* 2014 May-Jun;29(3):709-17

This 5-year prospective multicenter study compared implant survival and success, peri-implant health and soft tissue responses, crestal bone level stability, and complication rates following immediate loading of single OsseoSpeed implants placed in anterior axillary healed ridges or extraction sockets. Individuals requiring anterior tooth replacement with single implants were treated and immediately provisionalized. Definitive all-ceramic crowns were placed at 12 weeks. Implant survival, bone levels, soft tissue levels, and peri-implant health were monitored for 5 years.

One hundred thirteen patients received implants in fresh sockets (55) and healed ridges (58). After 5 years, 45 and 49 patients remained for evaluation, respectively. During the first year, three implants failed in the extraction socket group (94.6% survival) and one implant failed in the healed ridge group (98.3% survival); this difference was not significant. No further implant failures were recorded. After 5 years, the interproximal crestal bone levels were located a mean of 0.43 mm and 0.38 mm from the reference points of implants in sockets and healed ridges (not a significant difference). In both groups, papillae increased over time and peri-implant mucosal zenith positions were stable from

the time of definitive crown placement in sockets and healed ridges. Compared to flap surgery for implants in healed ridges, flapless surgery resulted in increased peri-implant mucosal tissue dimension (average, 0.78 mm vs 0.19 mm). After 5 years, the bone and soft tissue parameters that characterize implant success and contribute to dental implant esthetics were similar following the immediate provisionalization of implants in sockets and healed ridges. *The overall tissue responses and reported implant survival support the immediate provisionalization of dental implants in situations involving healed ridges and, under ideal circumstances, extraction sockets.*

A Comparison of Implant-retained Mandibular Overdentures and Conventional Dentures on Quality of Life in Edentulous Patients

Harris D, Höfer S, et al.
Clin Oral Implants Res. 2013 Jan;24(1):96-103

The purpose of this study was to determine any difference in patient response to implant overdentures compared with conventional complete dentures alone. In a randomized, prospective, controlled study, 122 edentulous patients (Mean age 64; 39 men, 83 women) underwent baseline assessment of denture satisfaction and quality of life using the Oral Health Impact Profile-49 (OHIP-49) and a Denture Satisfaction Questionnaire. All patients were provided with new conventional complete dentures (CCDs) that they wore for 3 months, at which point they were reassessed using the same measures. Patients were randomly assigned either to continue with CCDs (CC group) or to have implant-retained overdentures (IODs) made (CI group). The CC group was assessed after a further 3 months (6 months after receiving CCDs). The CI group was assessed 3 months after receiving IODs.

Significant improvements in satisfaction and quality of life were found in the patients 3 months after receiving CCDs. No further improvements were found in the CC group at 6 months on any of the measures. The CI group showed significant additional improvements at 3 months following IODs on the functional limitation, physical pain, psychological discomfort, physical disability, social disability, psychological disability and handicap scales of the OHIP and on 10 of the 11 scales of the Denture Satisfaction Questionnaire. *The findings show that, controlling for expectancy bias and variability in baseline levels, IODs significantly increase patient satisfaction, dental function and quality of life over and above those achieved with good quality CCDs.*



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