

i In the following study the B+ molecule was referred to as SurfLink, a patented Surface Technology under license from NBMolecules.

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SAFETY AND EFFICACY OF A BIOMIMETIC MONOLAYER OF PERMANENTLY BOUND MULTI-PHOSPHONIC ACID MOLECULES ON DENTAL IMPLANTS: 1 YEAR POST-LOADING RESULTS FROM A PILOT QUADRUPLE-BLINDED RANDOMISED CONTROLLED TRIAL

Marco Esposito, Ivan Dojcinovic, Laurence Germon, Nicole Levy, Richard Curno, Sabrina Buchini, Peter Pechy, Bjorn-Owe Aronsson Eur J Oral Implantol, 2013, 6(3), 227–236

Purpose: To evaluate the safety and clinical efficacy of a novel surface treatment (SurfLink®, Nano Bridging Molecules, Gland, Switzerland) on titanium dental implants. SurfLink consists of a monolayer of permanently bound multi-phosphonic acid molecules, which mimics the surface of naturally occurring hydroxyapatite.

Materials and methods: Twenty-three patients requiring at least two single dental implants had their sites randomised according to a split-mouth design to receive one titanium grade 4 implant treated with SurfLink and one untreated control implant. Additional SurfLink-treated implants were placed if needed. Implants were submerged for 3 months in mandibles and 6 months in maxillae, were loaded with definitive metal-ceramic crowns, and followed up for 1 year after loading. Outcome measures were crown/implant failures, any complication,

radiographic peri-implant marginal bone level changes and marginal bleeding.

Results: One patient dropped out after abutment connection. All remaining patients were followed up to 1 year post-loading. No implant failed and only 1 postoperative complication (pain) occurred, but it may not have been related to the implant treatment. No bleeding was observed when a periodontal probe was used to examine the peri-implant soft tissues around the implants. There were no statistically significant differences in marginal bone level changes between the two groups ($P = 0.057$, mean difference = -0.27 , SE = 0.13 ; 95% CI -0.55 to 0.01).

Conclusions: Preliminary short-term data (1 year post-loading) of implants with a biomimetic

monolayer of permanently bound multi-phosphonic acid molecules (SurfLink surface treatment) presented no safety issues. Clinical healing in both the control and SurfLink-treated implant group was uneventful and did not differ significantly between groups. More challenging clinical situations need to be investigated to evaluate the real effectiveness of this surface treatment.

SurfLink® 
Untreated Control 

Box plot representing peri-implant bone loss at different times for SurfLink-treated and untreated control implants (N = 21). P values (#paired *t* test; *Wilcoxon test) between time intervals are indicated.

