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Evaluation of bone healing in periodontal osseous defects using β-TCP and BMP with collagen

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Infrabony periodontal defects are treated with a variety of graft materials, a number of growth factors are also been used for the same, in this study patients diagnosed with infra bony defects by clinical examination and radiographic evaluation, were enrolled after obtaining informed consent. The study design followed was 1:1 open label randomized clinical trial comparing the role of Beta tri-calcium phosphate (β-TCP) with bone morphogenic protein -7 (BMP-7) (Group A) and Collagen sponge with BMP-7 (Group B) in periodontal bone regeneration. A total of 69 subjects with 131 bone defects were randomly allocated either of the two treatments. Among them, 62 patients with 123 defects completed all follow-ups (i.e. 7 days, 2 weeks 4 weeks and 24 weeks). Group A had 30 subjects and 61 defects, while Group B had 32 subjects with 62 defects.The clinical outcome of the study shows that there was an early bone healing in Group B: where collagen was used with BMP-7 as graft material. We observed 16.74±1.13 bone fill at 4th week denta-scan and at 24th week dentascan the bone fill in group B was 68.5±3.13 compared to the 11.31±0.67 in group A: TCP with BMP at 4th week and 62.5±4.27 at the 24th week . The above results show that there was early healing and bone fill in Group B patients when compared to Group I patients. BMP-7 is a good osteo-inductive agent and gives good clinical results with collagen than when used with tri-calcium Phosphate (TCP).

Biography

Nand Lal is Professor and Head of the Department of Periodontology in King George's Medical University, Lucknow, India. He has completed his graduation and post-graduation from King George's Medical College in 1991 and 1996. He has joined the Department of Periodontology as Lecturer in 1997 and is Head of the Department since 2016. He has many publications and is specialized in the regenerative surgeries of periodontal osseous defects. He is working on the healing patterns of periodontal osseous defects, testing the applciation of various growth factors as bone morphgenic protein, platelet rich plasma and fibrin.

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