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THE COMPOSITE OF BONE MARROW CONCENTRATE AND NANO-HYDROXYAPATITE AS AN ALTERNATIVE TO AUTOLOGOUS BONE IN RECONSTRUCTION OF RESIDUAL SURGICAL DEFECTS: A RANDOMIZED CONTROLLED CLINICAL STUDY

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Aim: The aim is to examine the evidence behind the use of the composite of bone marrow concentrate and nano-hydroxyapatite as an alternative to autologous bone graft.

Methodology: The study was conducted on 14 residual surgical non-continuity defects resulting from enucleation of odontogenic cysts. The defects were randomly allocated into two groups according to defect filling as follows: Group A (n=7), defects were grafted with a composite of bone marrow concentrate (BMC) and nano-hydroxyapatite granules; Group B (n=7), defects were grafted with autologous bone graft. Radiographic evaluation was done using CT scan, immediate, six and twelve months post-operatively to assess the volumetric changes of the grafts.

Results: There was no statistically significant difference ($p>0.05$) between groups regarding the percentage of reduction of graft volume along the follow-up period.

Conclusion: The use of composite of bone marrow concentrate (BMC) and nano-hydroxyapatite granules to reconstruct surgical defects is a reliable alternative to autogenous bone graft.