EFFECT OF BONE MARROW ASPIRATION WITH PLATELET RICH FIBRIN IN CLEFT ALVEOLAR GRAFTING

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Dissertation Submitted to the

Rajiv Gandhi University of Health Sciences, Karnataka, Bangalore

In partial fulfilment

Of the requirements for the degree of

MASTER OF DENTAL SURGERY

In

ORAL AND MAXILLOFACIAL SURGERY

Under the guidance of

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S.D.M. COLLEGE OF DENTAL SCIENCES & HOSPITAL,

DHARWAD

2018-2021

ABSTRACT

OBJECTIVES OF THE STUDY: To evaluate the effect of bone marrow aspiration with and without PRF on regenerative capacity in patient undergoing Iliac bone grafting for congenital alveolar cleft

MATERIALS AND METHODS: A prospective study on patients with cleft alveolus, requiring bone grafting and reporting to SDM Craniofacial unit from October 2018 to May 2020 will be included in this study. In this study we have included patients in two groups. Group one included bone marrow aspirate with PRF along with cancellous Iliac bone graft and Group two includes bone marrow aspiration without PRF and cancellous Iliac bone graft. OPG was done to assess the bone height using Bergland's classification and CT scan was done to assess the volume of defect at following intervals: Pre-op, 6month and 12 months. Outcome is assessed using CT scan OPG and by statistical analysis.

RESULTS: In group 1, 90% of our patients had type II bone formation and 10 % of patient had type III bone formation, whereas in group 2, 70 % of patients had type 2 bone formation and 30% of our patient had type 3 bone formation. Overall, on comparing both the group, 80% of patient had type II bone formation and 20% of our patient had type 3 bone formation. In CT Volume, percentage of newly formed bone from pre-op to 12 months in group 1 was 59.99% and in group 2 was 57.66%

CONCLUSION: Bone marrow aspirate in combination with PRF and autogenous bone was beneficially in improving the volume of newly formed bone in

reconstruction of cleft defect and also results in greater osteogenic effect which increases new bone regeneration and better wound healing.

KEYWORDS: Cleft alveolus, bone marrow aspiration, Platelet rich fibrin, computed tomography, iliac bone graft