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A RESEARCH STUDY TO EXPERIENCE A NEW WAY TO MANAGE THE DIMENSIONS OF POST-EXTRACTION ALVEDAR BONE AT SERVICES HOSPITAL, LAHORE

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Abstract:
In the conservation of size of alveolar ridge, new method is highlighted in this study. This case study is about an old patient whose age was 56 years organized at Services Hospital, Lahore (September 2017 to March 2018). The teeth of the patients were removed. By using the normal saline spray, patient's teeth were ground with a diamond bus. Teeth was ground to such an extent that it took the form of powder. This powder was gathered and added to 2.0ml of intravenous blood of patients and mixed. The tooth socket was filled with this powder but a 3mm space was left empty. Pluggers was a used for filling. For stitching the socket silk material was used which was non-restorable. The next tooth was made ready endodontic ally after the period of one week. Then, a fixed partial denture was set on to prepared abutments. This therapeutic method was without immune response. According to the outcomes, this method can be executed at chain side. Through this technique, alveolar ridge can be maintained,

Keywords: *Alveolar ridge, Bone resorption, Hydroxyapatite, Tooth.*

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INTRODUCTION:

The size of ridge is being extremely influenced by post-extraction resorption of an alveolar ridge. It is a spontaneous process of bone recovery [1]. These exists a serious issue in dental implants placement through this procedure. Sometimes, it makes the implant unable to carry out. Furthermore, clinical issue like esthetically and functionally defected removable prosthesis and fixed prosthesis may be the result of alveolar ridge resorption [2]. So, it is necessary to avoid the alveolar bone dimensions. For the purpose of enhancing the volume of bone, the common methods mostly used in the periods of 80s and 90s, were bone grafting [3]. But great importance is given to the use of bovine bone matrix. Moreover, there have been observed an increased use of synthetic hydroxyapatites and bio glasses [4]. Osteoconductive and biocompatibility are the two uses of calcium phosphate that enhances its importance in augmentation process. But, the use of biological Ca-P minerals as a bone augmentation material is not mentioned in vivo, vitro a clinical study. In this study, rare cases of bone augmentation with patients removed teeth is presented.

CASE REPORT:

The case study was about an old patient with age of 56 years. In September 2017, he was presented to Services Hospital, Lahore. The patients were suffering with perpetual dull discomfort in upper left central incisor. He was going through this pain for two years. The patient was examined. The patients were noticed with mobility of grade 2 in lower left first molar and in upper left central incisor. One author removed the tooth of patients. For washing this removed tooth, normal saline water was used. For 30 seconds, the tooth was immersed in methylene blue dye. Then, it was allowed to dry in air for 5 mints. To avoid contamination of bacteria or spores, normal saline in lieu of water was used. Then, the outer surface of tooth was broken into about 100 microns. For the estimation of reductions in outer dimensions, Vernier's caliper was employed. Sharp tapered tissue diamonds bus was used for breaking the teeth into fine powder. The piece was gathered in a germ-free silicon dish of cone shape, set on a dental tray. The grinding of teeth was made easy through moving the teeth in various directions. By taking into accounts the visual emergence of yellowish hue and pulpal internal structure of teeth, grinding of teeth was done. Then, the powder was gathered and added to blood of patients. Socket was filled with this powdered paste. Pluggers was used for this purpose. A space of 3mm was left only. In order to retard the immune activity, a syringe with decadrans injectable materials was marked on the surface of filled powdered paste. At the last, for the assemblage of buccal and palatal gingival sulcus, silk materials were used that was non-resorb able. Sutures were taken off after 7 days. In order to avoid any infections in future, endodontic treatment was done to both upper left lateral incisor and upper right central incisor. For follow-up, patients come after two years. For the printing the case, patients signed the written agreement. ground by considering the pulpal anatomy of the tooth and the visual appearance of yellowish hue which Novel approach in managing post-extraction alveolar bone dimensions.

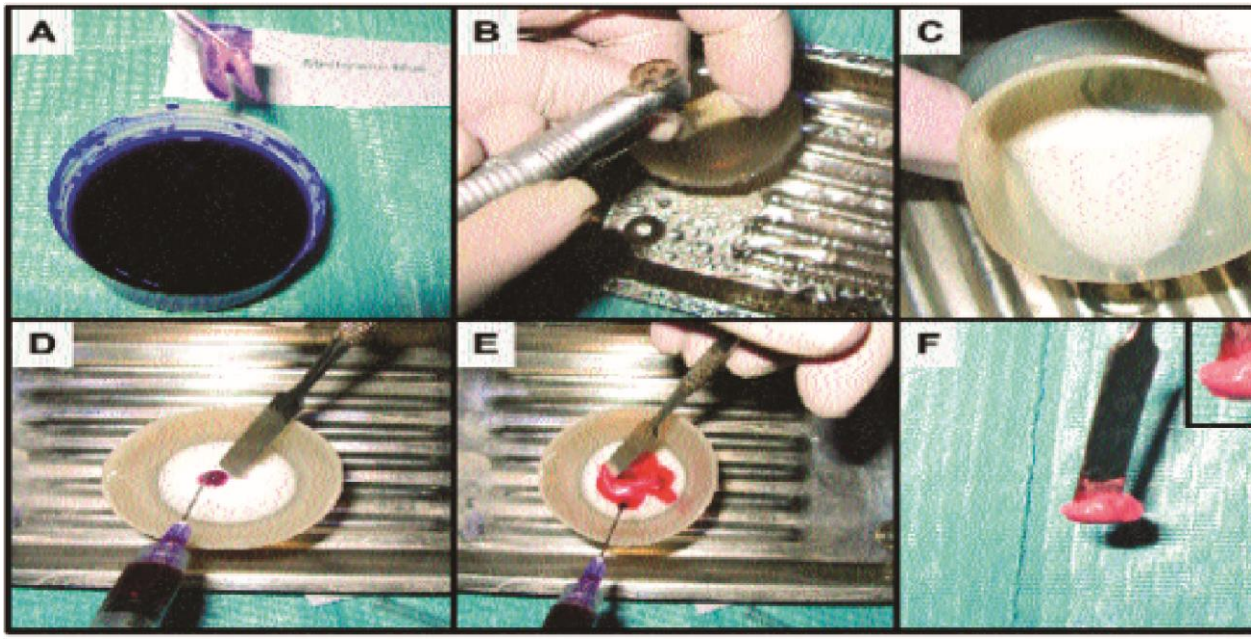

Figure-1: Process of osteoinductive material preparation for alveolar bone ridge. (A) methylene blue dipped teeth, (B) grinding of tooth, (C) ground tooth in normal saline forming a thick slurry, (D) blood being dropped in white slurry, (E) mixing of blood and slurry and (F) a thick paste is formed after mixing blood with grinded particles of teeth in normal saline.

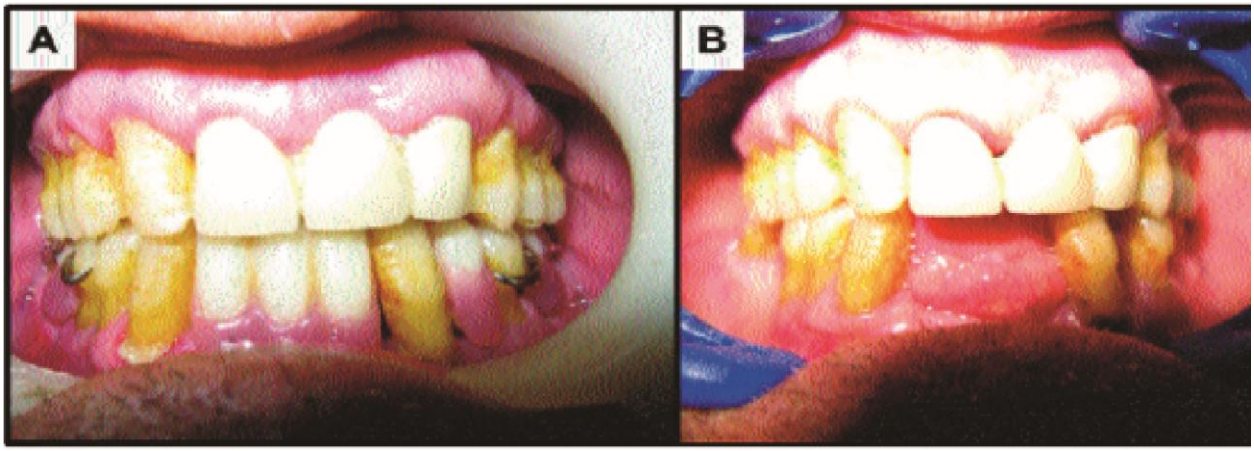

Figure-2: (A) Digital image of porcelain bridge on the day of implantation and (B) Digital image of porcelain bridge after a period of two-years.

DISCUSSION:

Both organic and inorganic components are present in tooth. Tooth also comprised of many calcium phosphates. It is helpful in the recovery of teeth. The main problem observed with teeth is post-extraction bone resorption [5]. morbidity, bridge failure and discomfort are the result of this problem. In order to meet this issue, many methods are being used [5]. Along with the bone formation, there observed a remarkable recovery in alveolar ridge height after clinical assessment. Although, it is also observed that after extraction it is influenced during first three months [6,7]. The therapeutic method can be executed easily at chairside. No additional materials are required. The mixture of tooth-powdered and blood of patients proved very effective. It is so because, no immune activity is established. As the tooth comprised the hydroxyapatite which is difficult to decompose, it helped in attachment and establishment of new tissues. Many growth factors like bone morph genic proteins and type 1 collagen comprise 90% of tooth component beside other organic compounds. [8]. The ability of bone formation and excellent biocompatibility is shown by the collagen based materials [8,9]. Few case report are conducted that indicate block or tooth typed grafting materials. However, no study has ever organized that employed powdered tooth graft materials added to patients' blood. For the affirmation of the techniques mentioned in this study, there is a need to organize more cases and studies.

CONCLUSION:

There is excess, as the tooth comprised the hydroxyapatite which is difficult to decompose, it helped in attachment and establishment of new tissues. Many growth factors like bone morph genic proteins and types collagen comprise 90% of tooth component [8]. The ability of bone formation and excellent biocompatibility is shown by the collagen based materials [8-9]. Few case report are conducted that indicate block or tooth typed grafting materials. However, no study has ever organized that employed powdered tooth graft materials added to patients is blood. For the affirmation of the techniques mentioned in this study, there is need to organize more cause and studies.

CONCLUSION:

There is excess of methods present. Many natural and synthetic osteoinductive materials are involved in these methods. But the methods used in this case study proved very effective. It also diminishes the possibility of immune failure. For the maintains of alveolar bone ridge, this method is effective, new, easy and affordable.

DISCLAIMER:

The work has never been previously presented or published in a conference, or published in an abstract book.

CONFLICT OF INTEREST: None

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REFERENCES:

1. Sheikh Z, Sima C, Glogauer M. Bone replacement materials and techniques used for achieving vertical alveolar bone augmentation. Materials. 2015; 8:2953-93.
2. Iasella JM, Greenwell H, Miller RL, Hill M, Drisko C, Bohra AA, et al. Ridge preservation with freeze-dried bone allograft and a collagen membrane compared to extraction alone for implant site development: a clinical and histologic study in humans. J Periodontol. 2003; 74: 990-99.
3. Lekovic V, Camargo PM, Klokkevold P R, Weinlaender M, Kenney EB, Dimitrijevic B, et al. Preservation of alveolar bone in extraction sockets using bioabsorbable membranes. J Periodont. 1998; 69:1044-49.
4. Kim YK, Lee J, Um IW, Kim KW, Murata M, Akazawa T, et al. Toothderived bone graft material. J Korean Assoc Oral Maxillofac Surg. 2013; 39: 103-11.
5. Rocha LB, Goissis G, Rossi MA. Biocompatibility of anionic collagen matrix as scaffold for bone healing. Biomaterials. 2002; 23: 449-56.
6. Araújo MG, Sukekava F, Wennström JL, Lindhe J. Ridge alterations following implant placement in fresh extraction sockets: an experimental study in the dog. J Clin Periodontol. 2005; 32: 645-52.
7. Hoda N, Saifi AM, Giraddi GB. Clinical use of the resorbable bioscaffold poly lactic co-glycolic acid (PLGA) in post-extraction socket for maintaining the alveolar height: A prospective study. J Oral Biol Craniofac Res. 2016; 6: 173-78.
8. Aksoy MC, Kocer G, Kucukesmen HC, Eroglu E, Senturk MF. Distribution and pattern of

implant therapy in a part of the Turkish population. J Pak Med Assoc. 2016; 66:1277-80.

9. Canullo L, Pellegrini G, Canciani E, Heinemann F, Galliera E, Dellavia C. Alveolar socket preservation technique: effect of biomaterial on bone regenerative pattern. Ann Anat. 2016; 206: 73-9.