

Does an Extracted Tooth which is Considered as a Global Waste have Ability to Form New Bone?

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Tooth extraction is the commonest procedures in general dentistry. Extracted sockets are by and large left unprocessed for physiological healing all over the globe. Due to absence of bone graft material there may be a possibility of insufficient or failure of bone healing in the extraction sockets. It is therefore not surprising that placement of a graft can accelerate the bony healing [1].

During the healing time, reductions of width and height were respectively 2.6 - 4.6 mm and 0.4 - 3.9 mm observed. Literatures also have mentioned that the decrease in bone volume following extractions by 50% within 12 months, and 2/3 of this resorption during the primary 3 months [2,3]. Therefore, preservation of 3-dimensional alveolar bone contour is obligatory after tooth extraction.

An ideal bone graft material have the properties of 1) osteoconduction, which offers gallows for bone regeneration; 2) osteoinduction, which endorse the enrolment of bone-forming cells, such as undifferentiated cells and preosteoblasts and configuration of bone from these cells; and 3) osteoproliferation, the stimulation of cells contained in the graft material to endorse bone regeneration. Allografts lack osteoproliferation, and xenografts and alloplasts only show osteoconduction. Barely autogenous bone demonstrates all three properties; autogenous bone grafting is at present considered the gold benchmark [4].

The compositions of tooth (dentin) and bones are very similar. Dentin is conjured of 65% inorganic and 35% organic substances. Alveolar bone is also made up of an even more similar ratio of 65% inorganic and 35% organic substances. The patient's own tooth is also a possible alternative substance for bone substitute materials. As the tooth is autogenous, immunogenicity is reduced, medical waste is recycled and expense is reduced for the patient. Additionally, non - efficient healthy teeth which are removed from humans are well thought-out as infective dental waste worldwide [5]. Therefore, the ideal management plan for extraction of tooth must be accomplished with placement of autogenous graft for adequate bony healing is obligatory.

Thus, a single stage surgery is needed as extraction of socket, along with preparation of autogenous graft, and placement of graft in the same socket would provide a one step solution to restoration of function with a proper bone healing along with prevention of infective dental waste. At the same time, it would not interfere with any other secondary corrective procedure, if the patient so desires.

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