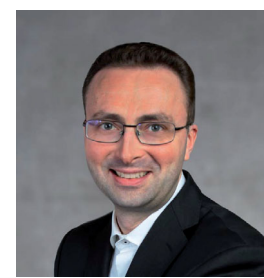
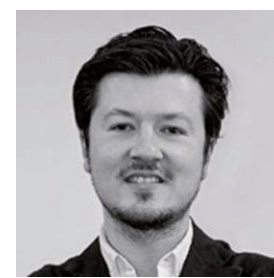


Clinical and morphological evaluation of dentine blocks used for alveolar ridge augmentation. T-bone concept.

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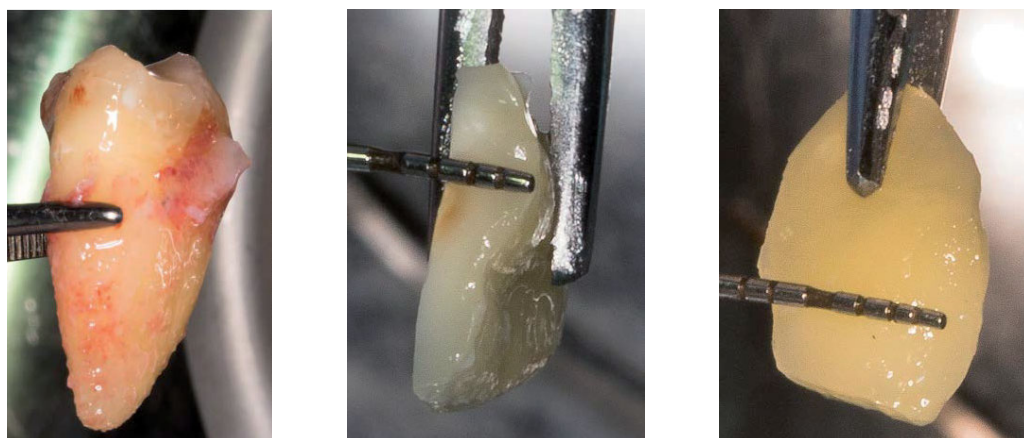


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Objectives

If considering the morphological, physical and chemical similarity of dentine and bone, it gives us biological ground for using dentine blocks for local alveolar ridge augmentation in cases with a small amount of atrophy prior to implant placement. The aim of the study is to prove both clinically and histologically whether the use of dentine blocks for local alveolar ridge augmentation is a valuable treatment modality.

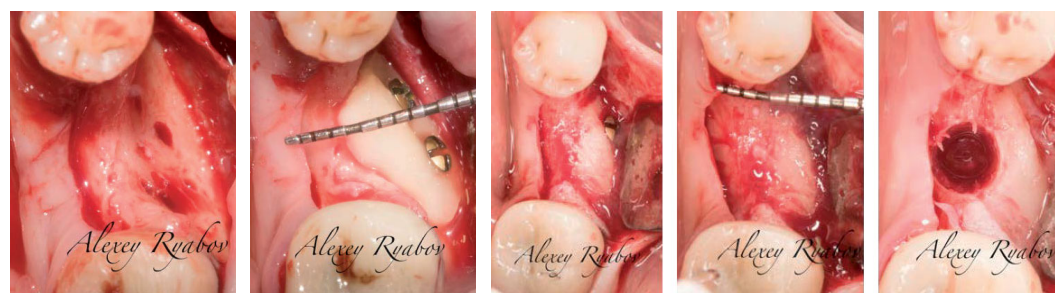


Methods

A single cohort of fifteen patients, both male and female was selected. The age range was from 21 to 60. Inclusion criteria were: non-functional vital teeth, which were to be extracted; local bone atrophy with less than 5 mm ridge width. Clinical procedure. After donor-tooth extraction, followed separation of clinical crown, periodontal ligament and root cement. All procedures were performed with irrigation. Then the blocks were adapted to the recipient site and fixed with titanium screws. Minimum healing period before reopening was 4 months. At second surgery stage, biopsy with trephine was collected, following implant placement in this site. Radiological evaluation was done at baseline and four months after transplantation.

Results

Fifteen patients had 17 implants placed in newly regenerated bone. After 8 to 10 weeks all implants were loaded with final restorations. Morphological data shows incorporation of bone structures and dentine blocks.



Conclusions

T-bone concept showed promising clinical and histological results in terms of alveolar ridge augmentation for consecutive implant placement, and crestal bone stability around implants after loading in one year observation period. However, with limitations of the study further clinical evaluation and long-term observations are needed before recommending it as a definitive treatment modality.

