DISCUSSION

http://dx.doi.org/10.5125/jkaoms.2015.41.3.124
pISSN 2234-7550 · eISSN 2234-5930

Discussion: Effects of fresh mineralized dentin and cementum on socket healing: a preliminary study in dogs

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It is impressive to review an article that displays the procedure, outcome, and analysis of the study along with detailed data[1]. However, existing articles since 1967 have reported that the application of fresh dentin and cementum (DC) to bone defects has little effect on bone regeneration. References 9, 11, and 15 in this article[1] illustrate the function of fresh dentin, but other studies have also demonstrated why fresh dentin requires material preparation specific to the defect type[2-4].

This study could also be strengthened by histologically analyzing the data in the figures. The directions of the wall, apex and crestal area could be indicated using the trephine since the reactions differ according to the blood supply potential of each site. Consider adding indicators on the figures to differentiate new bone from the border and to highlight new bone around the dentin powder and connective tissue with vascularization for the objective analysis because dentin promotes new bone formation, especially when located close to native cortical bone, and it may also have potential as a bone augmentation material[5,6].

Even though the effect of fresh DC on bone regeneration has been repeatedly tested, it is still meaningful to apply fresh DC to extraction sockets. Since many factors could have affected the results of other studies, it is important to periodically confirm this conclusion. This article encourages researchers to investigate new methods to manufacture bone graft material for dental patients with alveolar bone defects.

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Conflict of Interest

No potential conflict of interest relevant to this article was reported.

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References

1. Kadkhodazadeh M, Ghasemianpour M, Soltanian N, Sultanian GR, Ahmadpour S, Amid R. Effects of fresh mineralized dentin and cementum on socket healing: a preliminary study in dogs. J Korean Assoc Oral Maxillofac Surg 2015;41:119-23.
2. Huggins CB, Urist MR. Dentin matrix transformation: rapid induction of alkaline phosphatase and cartilage. Science 1970;167:896-8.
3. Moharamzadeh K, Freeman C, Blackwood K. Processed bovine dentine as a bone substitute. Br J Oral Maxillofac Surg 2008;46:110-3.
4. Hussain I, Moharamzadeh K, Brook IM, José de Oliveira Neto P, Salata LA. Evaluation of osteoconductive and osteogenic potential of a dentin-based bone substitute using a calvarial defect model. Int J Dent 2012. doi: 10.1155/2012/396316.
5. Al-Asfour A, Andersson L, Kamal M, Joseph B. New bone formation around xenogenic dentin grafts to rabbit tibia marrow. Dent Traumatol 2013;29:455-60.
6. AL-Namnam NM, Shanmuhasuntharam P, Ha KO, Siar CH. Processed allogenic dentine as a scaffold for bone healing: an in vivo study. Aust J Basic Appl Sci 2010;4:5932-40.