Article

Effect of Systemic Zoledronic Acid Dosing Regimens on Bone Regeneration in Osteoporotic Rats

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Supplementary Materials: The following are available online at www.mdpi.com/xxx/s1, Figure S1: Steps in histomorphometric analysis of non-decalcified sections using ImageJ software

(a) Definition of region of interest (ROI) in STANDARD manner- Using the Aperio ScanScope image extraction tool, an individual histology image was extracted in 25% jpg format. Next, we selected the optimal sliced and scanned implant (from our implants projects); the implant physical measurement was mm and 7.0 mm^2, according to a standardized reference. In ImageJ or Adobe Photoshop, we drew a horizontal line at the square midpoint and measured the length yielding 3 mm in 3060 px; therefore, 1 mm corresponded to 1020 px. The 3060 px measurement was used to draw a perfect 3 mm circle selection with an area of 7.069 mm^2. The manually selected region of interest was duplicated, and the outside selection was cleared to white. (b) Estimation of percentage new bone area (BA%) in STANDARD manner: histomorphometric analysis of the non-decalcified sections was used, combined with ImageJ analysis. Percentage of new bone area (BA%) determined by standardizing the hue and saturation of bone tissue in red color and then measuring the area digitally recognized in yellow color. (c) Estimation of percentage area of remaining bone graft (RBG%) in STANDARD manner. Histomorphometric analysis of the non-decalcified sections was used, combined with ImageJ analysis. RBG % was determined by standardizing the hue and saturation of bone graft particles in red color and then measuring the area digitally recognized in yellow color. For all quantitative analyses, histological verification (based on tissue morphology and staining) was carried out.
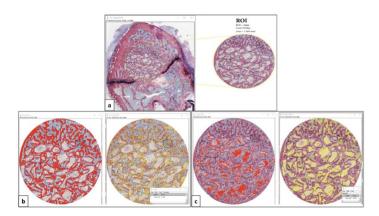
Figure S1. Steps in histomorphometric analysis of the non-decalcified sections using ImageJ software.