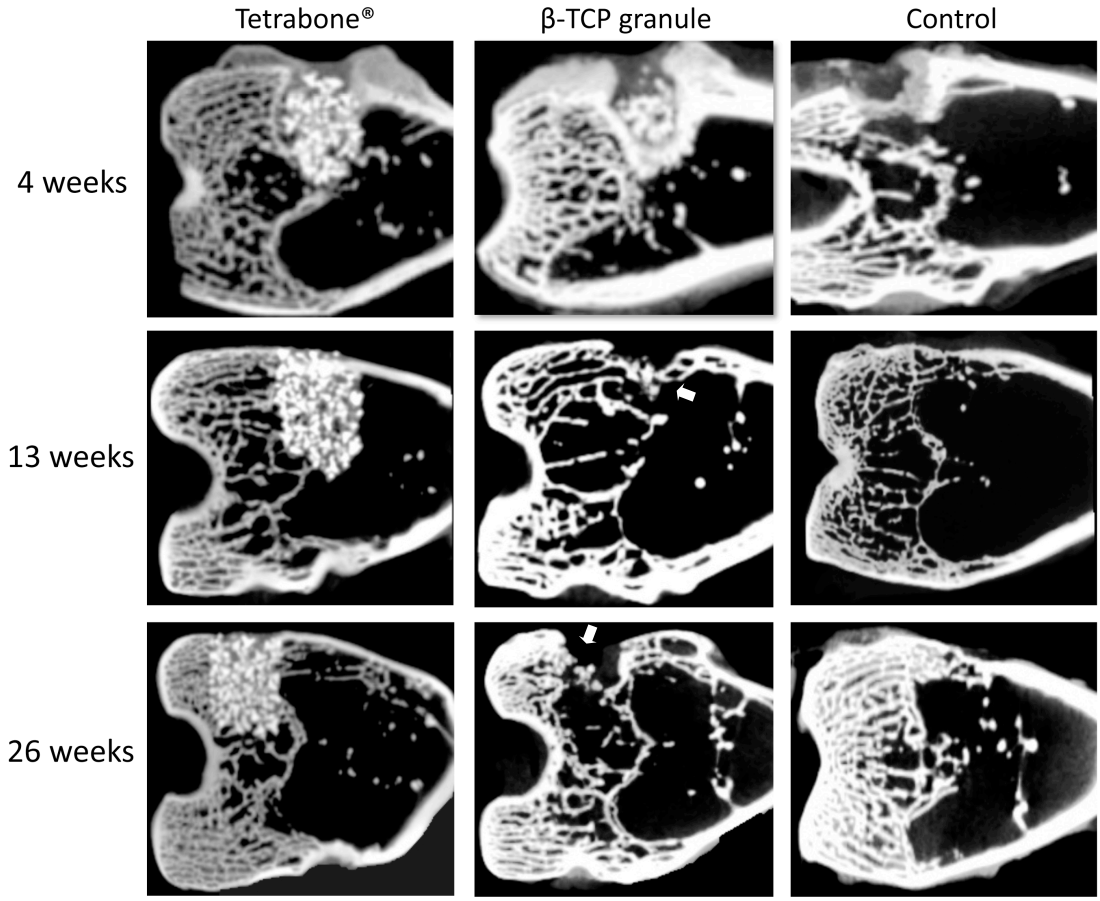

Fig.1-3 The longitudinal micro-CT images. Tetrabone® were well retained inside the defect in the Tetrabone® group. Few granules were left in the defect at 13 and 26 weeks in the β-TCP granule groups (white arrow). In the control group, cortical bone at the opening of the defect was almost repaired at 13 and 26 weeks.

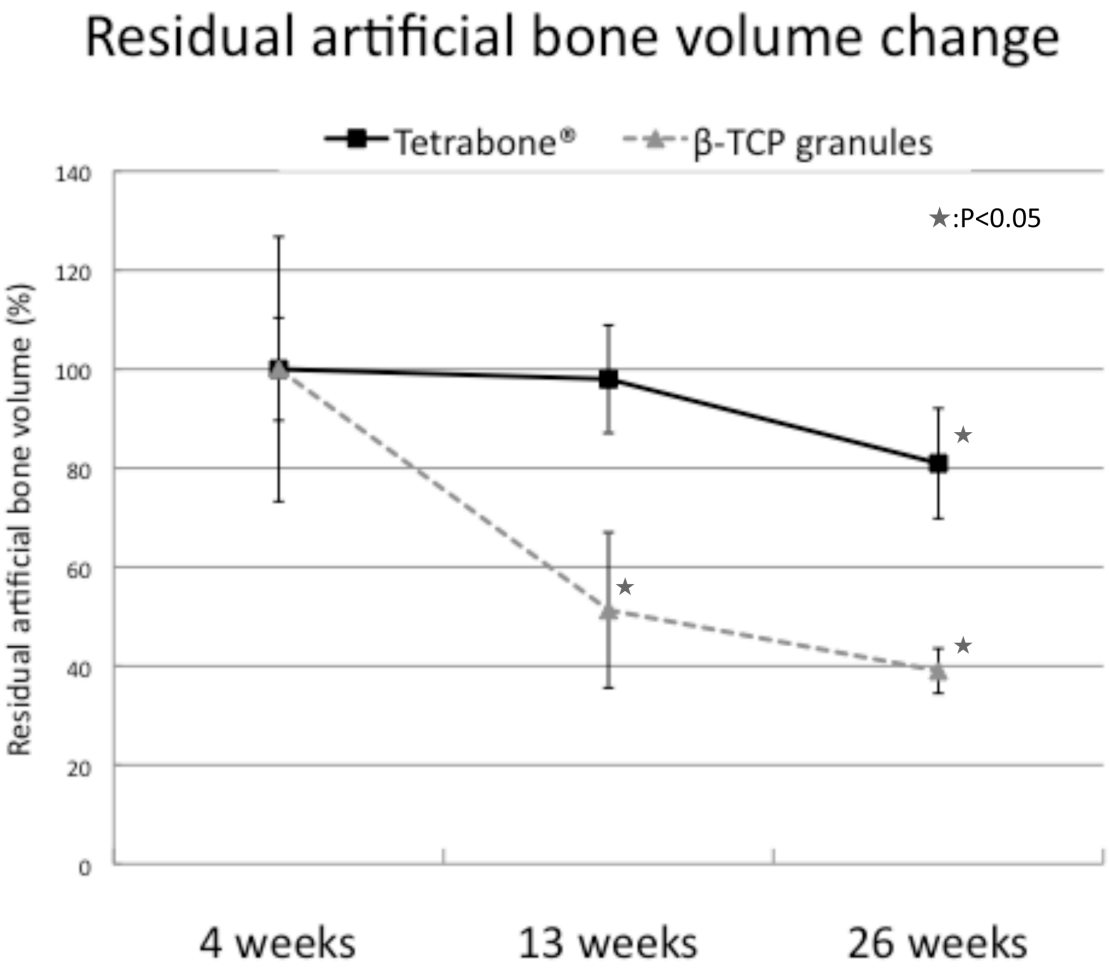

Fig.1-4 The residual artificial bone volume change of all groups. Values are shown as mean ± SD. Data were expressed as the changing ratio to those of 4 weeks in each group. In Tetrabone® group, artificial bone volume significantly decreased about 20% in 26 weeks. In β-TCP granule group, artificial bone volume decreased significantly both in 13 weeks and 26 weeks. ★: significance ($p<0.05$) from the volume at 4 weeks in each artificial bone.

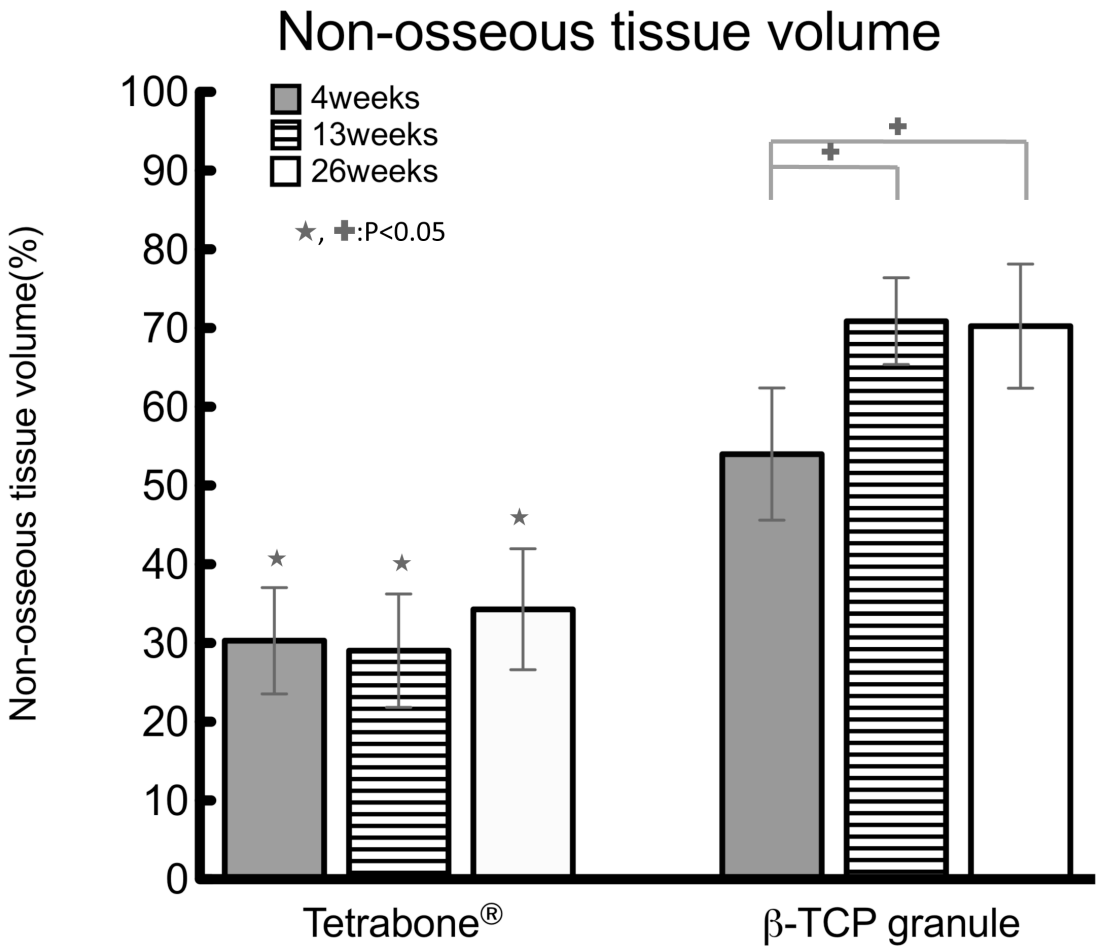

Fig.1-5 The non-osseous tissue volume in the micro-CT images of all groups. Values are shown as mean ± SD. Each volume was analyzed from reconstructed 3D data and expressed as a percentage in the region of drill hole (Φ5mm×8mm). The non-osseous tissue volume was significantly lower in the Tetrabone® group than those in the β-TCP granule group at each implantation time point. Additionally, the non-osseous tissue volume was significantly higher at 13 and 26 weeks than 4 weeks in the β-TCP granule group. ★: significance ($p<0.05$) from the β-TCP granule groups at the same implantation time. ✚: significance ($p<0.05$) between two bars.

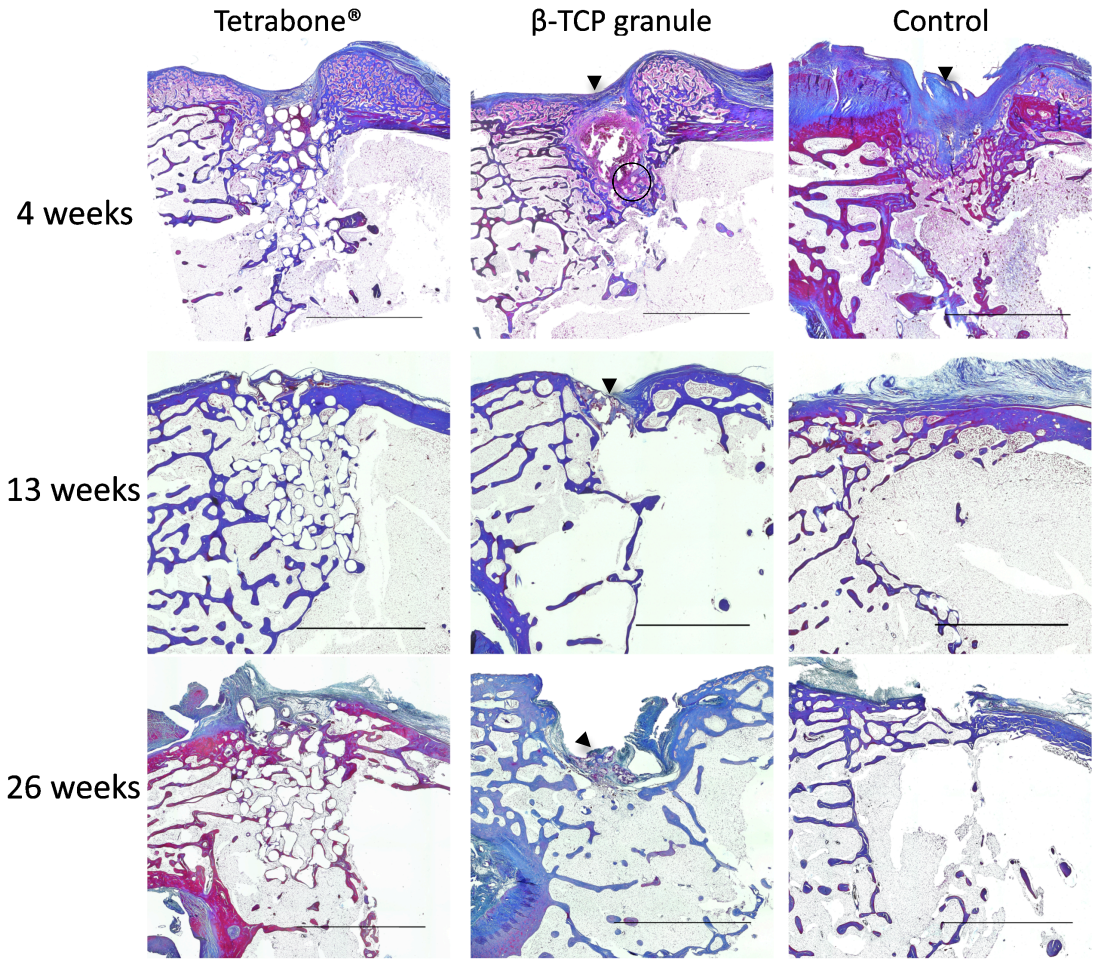

Fig.1-6 The histological sections of all groups. New bone tissues were filled within the inter-granular spaces between Tetrabone® granules. In the β-TCP granule group, some fibrous tissues were observed within the defect and granules had been resorbed. A lot of fibrous tissues were found at the opening of the defect at 4weeks of the control group. In the control group, the cortical bone at the opening of the defect was repaired at 13 and 26 weeks, though almost no new bone tissue was observed in the bottom of the defect. (Black arrow heads: fibrous tissue; Black circle: β-TCP granule; Masson's Trichrome stain, scale bar: 5mm)

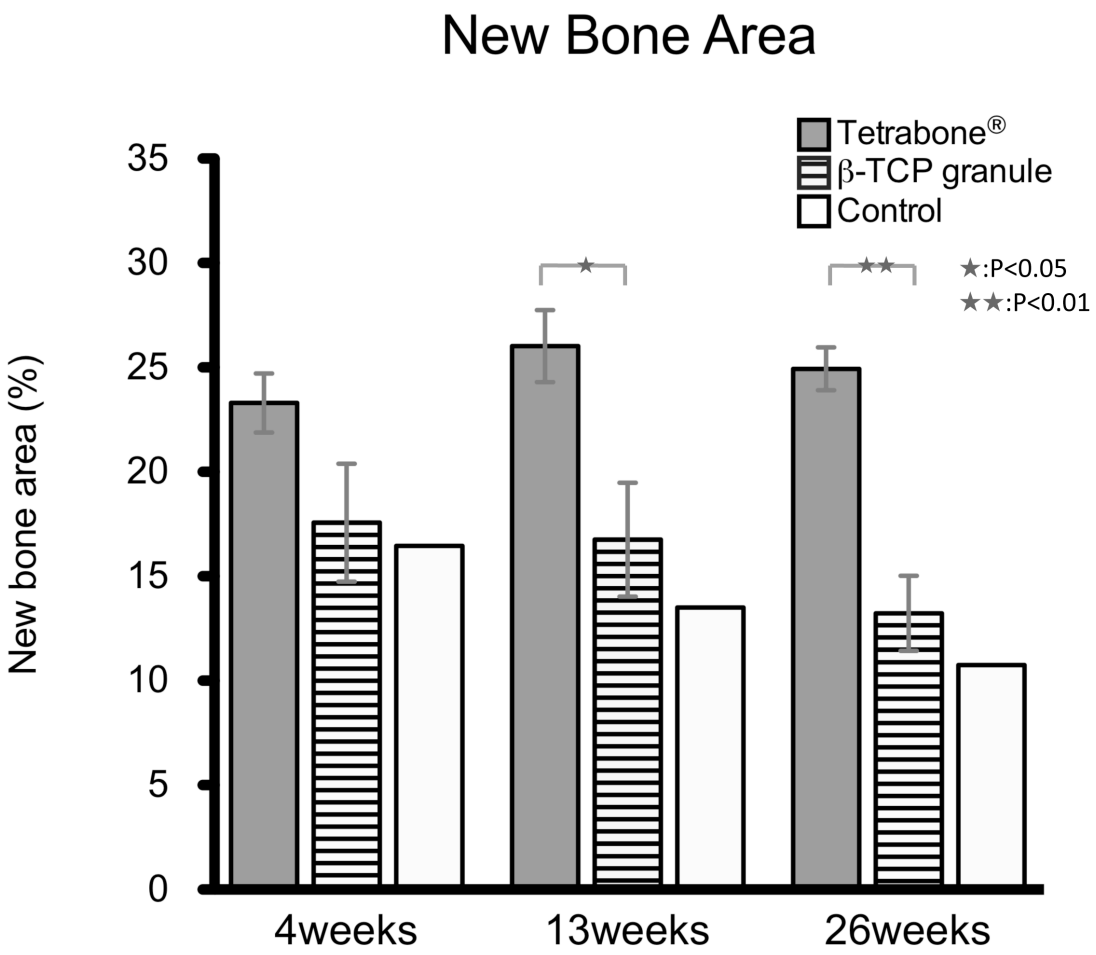

Fig.1-7 The new bone area in the histological sections of all groups. Values are shown as mean ± SD. New bone area was significantly higher in the Tetrabone® group than in the β-TCP granule group at 13 and 26 weeks. However, there were no time-dependent increase in new bone area in both the Tetrabone® group and the β-TCP granule group.