



Figure 1. Scanning electron microscope images of BCP(a), MBCP(b) and Bio-Oss(c) at magnifications of $\times 2000$. The surfaces of the graft materials show different microstructures. The surfaces of BCP-1 and BCP-2 show large, prominent and well-interconnected microporosity(a). MBCP shows relatively small and many micropores on its surface(b).

2. (NB%, area of newly formed mineralized bone)

3.0~3.5 kg white rabbits) 10 가 (New Zealand

4. ANOVA 가 (NB%) one-way

2% (1:8 가

8 mm (3i implant innovation,) 4 BCP-1, BCP-2, MBCP, Bio-Oss

3. 가

4 8 0.1M 4% 10% EDTA

1. 2. 1) BCP-1 4

가 Masson's trichrome (Fig. 2a). (BX51, Olympus,) (Fig. 2a'). (i-Solution[®], iMTechnology,) 8 4 (Fig. 3a). 40 , 100 (CC-12, Soft Imaging System GmbH,) (Fig. 3a').

2) BCP-2

4

(Fig. 2b).

(Fig. 2b').

8

4

(Fig. 3b).

(Fig. 3b').

3) MBCP

4, 8

(Fig. 2c, 3c).

4) Bio-Oss

4

(Fig. 2d), 8

4

가

(Fig. 3d).

가

(Fig. 2c', 3c').



Figure 2. Histological sections of the defects grafted with BCP-1(a, a'), BCP-2(b, b'), MBCP(c, c') and Bio-Oss(d, d') at 4 weeks. New bone formation is seen in the micropore as well as on the surface of the graft materials in BCP-1(a, a') and BCP-2(b, b') grafted defects. Stained with Masson's trichrome. Original magnifications of $\times 40(a \sim d)$ and $\times 100(a' \sim d')$.



Figure 3. Histological sections of the defects grafted with BCP-1(a, a'), BCP-2(b, b'), MBCP(c, c') and Bio-Oss(d, d') at 8 weeks. Graft degradation and replacement by newly formed mineralization can be seen in BCP-1(a') and BCP-2(b') grafted defects. Stained with Masson's trichrome. Original magnifications of $\times 40(a \sim d)$ and $\times 100(a' \sim d')$.

3. (NB%) BCP-1, BCP-2, MBCP, Bio-Oss 15.5±2.7%, 15.5±3.3%, 10.3±4.6%, 11.4±4.6% BCP-1 BCP-2 (Table 1). 8 4 MBCP 4 (p<0.05). 8 BCP-1 BCP-2

가 CSD 8 mm 가 8 mm CSD , 8 mm

Table 1. Histomorphometric Analysis of Newly Formed Mineralized Bone Area (means±SD, %)

Group	4 weeks	8 weeks
BCP-1	15.53±2.78	21.11±2.24*
BCP-2	15.52±3.28	18.74±6.93
MBCP	10.30±4.56	17.98±5.62*
Bio-oss	11.46±4.58	16.52±8.63

* Statistically significant difference between two healing periods (p<0.05 by t-test).

BCP-1 BCP-2 4 BCP-1 BCP-2가 , Bio-Oss MBCP가 8 4 , BCP-1 MBCP 가 (p<0.05).

가 가 400 μm 가 60/40 HA/TCP BCP 가 BCP 가 Bio-Oss 가 가 3-4 가 (critical size defect, CSD) 30,31) 가

가 가 가 가 가 가 BCP-1 BCP-2 가 100 μm 10 μm Bio-Oss 가 가 27,28,36) 가 35)

BCP-1, BCP-2 MBCP
 , HA/TCP 가 BCP-1,
 BCP-2
 (Fig. 1). BCP-2
 (Fig. 2b', 3b').
 Gauthier ²²⁾ 500 μm 가
 BCP가 300 μm 가
 , Karageorgiou ³⁷⁾
 300 μm
 400 μm
 가 BCP-2 BCP-1
 400 μm
 가
 Bio-Oss 가
 , ³⁸⁾
^{39,40)} BCP-1 BCP-2
 , MBCP
 , Bio-Oss
 8
 가 BCP
 가 가
 BCP
 가
 BCP
 가

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