

## 2 Bovine Bone Powder가

1. 1. 1. 2

1  
2

### I.

8), 9,10),  
10-12), HA 13-16)

가 4 ,  
4

7

3 2가

1).

1985 Greenstein

2-4),

3).

가

가

5).

가

6).

가 , , ,

가 가

2

7)

가 ,

가

1983 Seibert

class I,

가

class II,

class III

가

가 ( ) , ) .

가 , 2.

가 (1)

Bio - Oss Kinge<sup>17,18), 39)</sup> Ketamine HCl(Ketalar , ) 0.2ml/kg  
5% (100cc/hour, IV)

Bio - Oss 가

Bio - Oss Wetzels<sup>19)</sup> beagle dogs Ketamine HCl(0.1ml/kg, IV) Xylazine HCl( Rompun , 0.1ml/kg, IM) 20

가

(2)

2% Lidocaine HCl(Epinephrine 1:80,000 )

, ,

19,20,21),

가 Bio - Oss , Ca - P BBP chromic catgut

4 8

II. (3)

4 3 , 8 2 pH 7.4

1. phosphate buffer 2%

paraformaldehyde 2.5% glutaraldehyde

13 16 15kg

beagle dog 5

(graded alcohol) , 5%

(Bio - Oss , Osteohealth Co., USA ) 4 $\mu$ m

phosphate calcium Gomori's (Ca - P BBP , trichrome

, 4

III.

(Figure 11, 12).

1.

V.

4

35,36)

6

1/4

22).

23 - 32)가

(Figure 1, 2). 8

25,26,29 - 32)

(Figure 3, 4).

2. Bio - Oss

가

가

4

가

21,37 - 40)

33,41)

19,42)

Lekovic 43)

GTR

(Figure 5, 6). 8

가

44)

가

(Figure 7, 8).

3. Ca - P BBP

4

가

17,34,45).

41,45).

(Figure 9, 10). 8

Boyne 46)

가

가 . 8 Ca - P BBP

가 Bio - Oss

37,39), 3.5

34).

H mmerle 47)

Ca - P BBP

6

Ca - P BBP가

100%,

91%,

가

52%,

42%

. Young

48)

Bio - Oss

12

4 8

가

(Bio -

V.

Oss)

(Ca - P BBP)

13

16

5

Beagle

dog

4

가

Bio - Oss

Ca - P BBP

4

3

, 8

2

가

1.

4

가

4 8

8

, Ca - P BBP

2.

4

Bio - Oss

4

Bio - Oss

가

. 8  
가

3.  
Ca - P BBP 4

. 8

BBP

Bio - Oss Ca - P

## VI.

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(1)

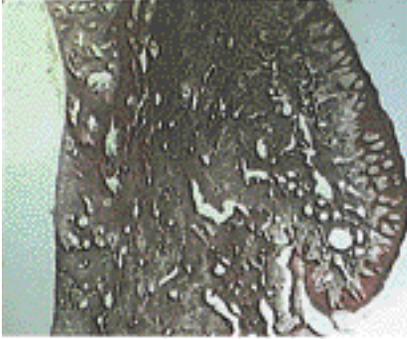


Figure 1



Figure 2



Figure 3

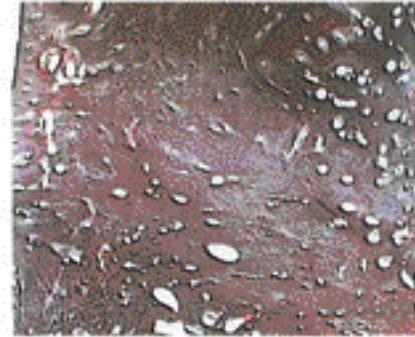


Figure 4

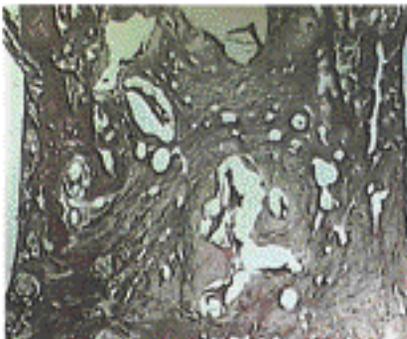


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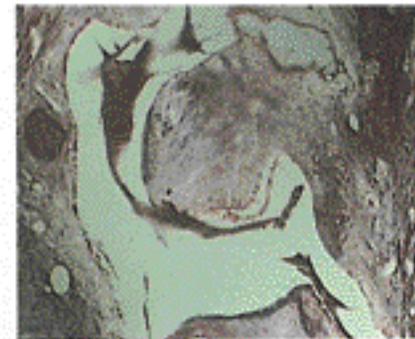


Figure 6

( II )



Figure 7

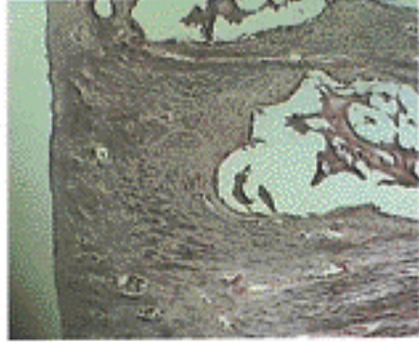


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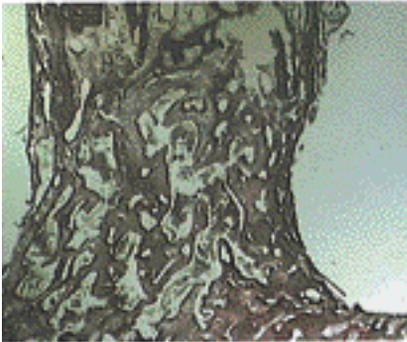


Figure 9



Figure 10

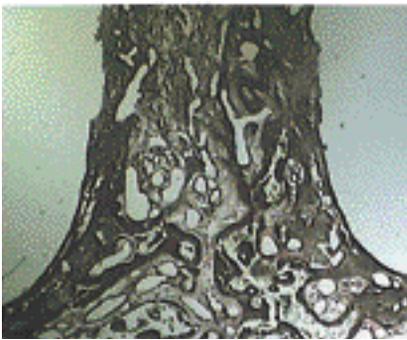


Figure 11

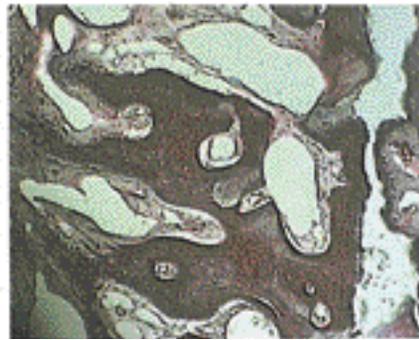


Figure 12

- Figure 1. Control group 4 weeks(Gomori's trichrome stain, x40)  
Figure 2. Control group 4 weeks(Gomori's trichrome stain, x100)  
Figure 3. Control group 8 weeks(Gomori's trichrome stain, x40)  
Figure 4. Control group 8 weeks(Gomori's trichrome stain, x40)  
Figure 5. Bio - Oss group 4 weeks(Gomori's trichrome stain, x40)  
Figure 6. Bio - Oss group 4 weeks(Gomori's trichrome stain, x40)  
Figure 7. Bio - Oss group 8 weeks(Gomori's trichrome stain, x40)  
Figure 8. Bio - Oss group 8 weeks(Gomori's trichrome stain, x40)  
Figure 9. Ca - P BBP group 4 weeks(Gomori's trichrome stain, x40)  
Figure 10. Ca - P BBP group 4 weeks(Gomori's trichrome stain, x40)  
Figure 11. Ca - P BBP group 8 weeks(Gomori's trichrome stain, x40)  
Figure 12. Ca - P BBP group 8 weeks(Gomori's trichrome stain, x40)

## Histologic Study on the Effect of Two Types of Bovine Bone Powder in Extraction Socket of Beagle Dogs

Tae - seong Park<sup>1</sup>, Sung - Bin Lim<sup>1</sup>, Chin - Hyung Chung<sup>1</sup>, Jong - Yeo Kim<sup>2</sup>

Department of Periodontology, College of Dentistry, Dankook University<sup>1</sup>

Department of Oral Histology, College of Dentistry, Dankook University<sup>2</sup>

Several extraction cases with advanced bone loss as a result of periodontal disease, root or labial bone fracture, extensive caries, and periapical lesions occur esthetic, functional problems and severe bone loss. Therefore, to treat these cases used several surgical methods and socket preservation among this therapies have been evaluated simple, effective and good prognosis in the implant placement.

Socket preservation therapy have been used with barrier membranes or/and graft materials. Deproteinized bovine bone mineral have been evaluated ideal grafting materials.

Recently, calcium - phosphate thin film coated bovine bone powders were developed in our country, but the study for these material wasn't reported. When two types

of xenograft materials were implanted in extraction sockets of Beagle dogs, the effects of these were analyzed after 4 weeks and 8 weeks histological views.

The results of this study were as follows.

- 1.....In control groups, 4 weeks after implantation, the extraction sockets were filled with connective tissue which has dilated vessels and epithelial growth. And after 8 weeks, irregular connective bundles were observed. But new bone formation was not seen.
2. ....In Bio - Oss groups, epithelial growth was not seen and bone powder was covered with connective tissue fiber. New bone formation was found around the interproximal bone. There was no special change seen after 8 weeks, connective tissue fibers became more regular, and bone growth near bone powder was not made well.
- 3.....In Ca - P BBP groups, epithelial cells didn't grow in the extraction sockets, there was a lot of new bone made around the bone powder after 8 weeks, new bone around bone powder was replaced with mature bone.

It is thought that bone powder grafting into the extraction sockets is very useful for conservation of ridge, and Ca - P BBP is more effective in bone formation than Bio - Oss.