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\* . \* . \* . \*\*

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\*\*

I.

8-10).

1).

11).

2,3).

12).

가

Melcher<sup>1)</sup> 가

expanded

. Karring <sup>4)</sup>

Polytetraflouroethylene(e - PTFE)

가

. e - PTFE

11,13-17)

4

6 가

2

5-7).

2

2

18,19)

II.

2

1.

가

13 16 15 kg  
beagle dog 5

Cortellini 20)  
e - PTFE

가

Becker 21)  
1

(BioMesh , , )

calcium - phosphate  
( : 0.4 0.6 mm,  
).

Haney 22)

2.

23 - 27)

1)

28,29), mini screw

Ketamine HCl(Ketalar ,  
) 0.2 ml/kg  
5% (100 cc/hour, IV)

Ketamine HCl(0.1 ml/kg,  
IV) Xylazine HCl(Rompun , ,  
0.1 ml/kg, IM) 20

Gottlow 11)

가

2)

가

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

. diamond  
round bur(Shofu Co., Japan)  
4 mm 6  
× 4 mm  
(Gracey Curet no. 1 - 2, Hu - Friedy Co.,  
Germany) roto round bur(Roto - Pro,  
Ellman International Inc., USA)

2 mm

1/2

Ca - P  
가

1/2  
가

(Figure 11 13).

5 2  
(gentamicin sulfate)  
(phenyl butazone) 3. 4

3)

4 3 , 8 2

pH 7.4 phosphate buffer

2% paraformaldehyde 2.5% glutaraldehyde

(Figure 14).

(graded alcohol)

5%

(Figure 15, 16).

4  $\mu$ m  
Gomori's trichrome

가

III.

1. 4

가

가

가

(Figure 16).

4. 8

(Figure 9, 10).

(Figure 17).

2. 8

(Figure 18).

가 34 - 41).  
4

V.

6  
BioMesh polylactic acid polyg -  
lycolic acid, lactide/glycolide  
copolymer 8

가  
가

가 . 8  
가

. Lundgren

가 Slotte<sup>42)</sup>

4).

, H rzeler <sup>43)</sup> e -  
PTFE collagen

Caffesse <sup>31)</sup> <sup>12)</sup>, Anderegg <sup>30)</sup>

, Mellado <sup>32)</sup>  
. Isidor <sup>6)</sup>

가

Choi <sup>33)</sup>

가

가  
Bowers <sup>44,45)</sup>

2

. Anderegg 30)

가

가

32). Caffesse

8

46) e - PTFE

Jensen 48)

, Wallace 47)

e -

44

PTFE

, Schmitt 49)

가

가

가

가

가

가

e - PTFE

Bower 44,45) Anderegg 30)

가

가

Mellado 32)

V.

가

4 , 8

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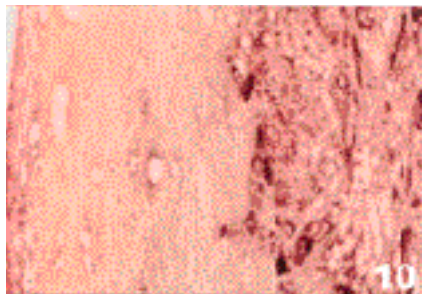
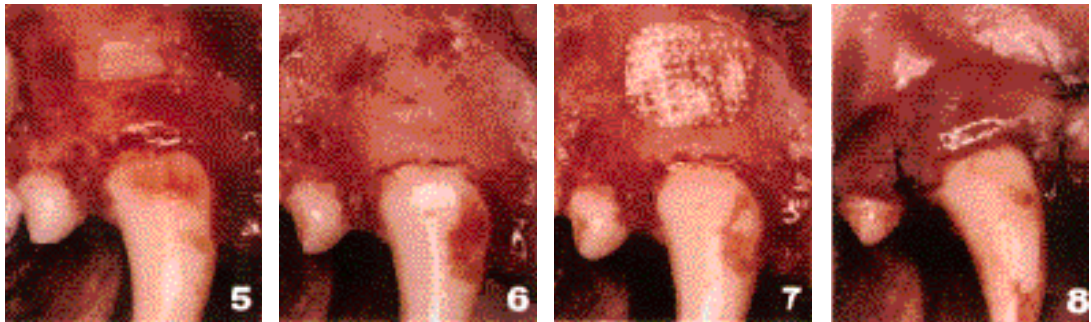
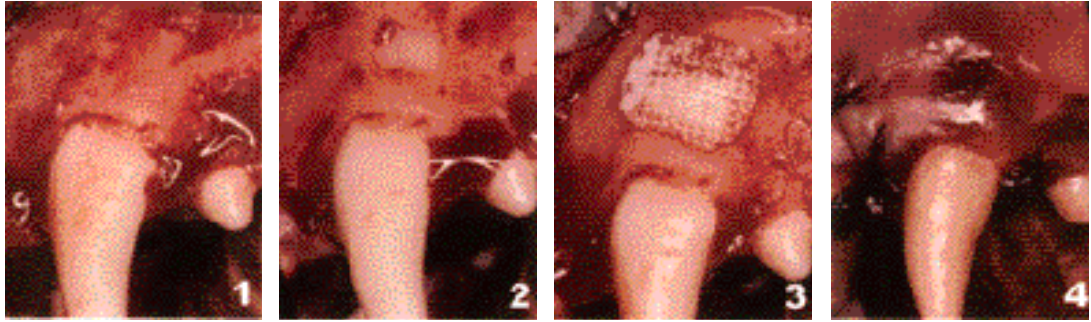
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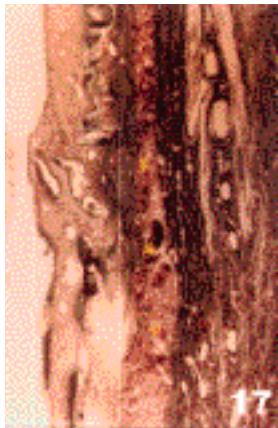
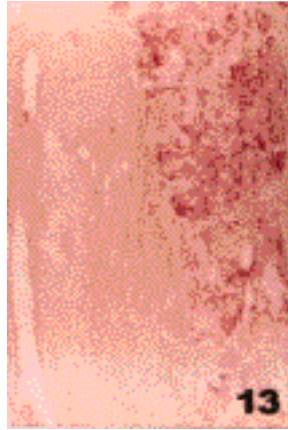


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(I)



(II)



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Figure 1. ( )

Figure 2. 6 × 4 mm ( )

Figure 3. ( )

Figure 4. ( )

Figure 5. 6 × 4 mm ( )

Figure 6. - ( )

Figure 7. ( )

Figure 8. ( )

Figure 9. ( )  
 (\*) ( 4 ,  
 Gomori's Trichrome Stain, ×40)

Figure 10. 가  
 ( 4 , Gomori's Trichrome  
 Stain, ×200)

Figure 11. ( )  
 (\*)  
 ( 8 , Gomori's Trichrome Stain,  
 ×20)

Figure 12. 1/2 ( )  
 8 , Gomori's Trichrome Stain, ×100)

Figure 13. ( 8 , Gomori's  
 Trichrome Stain, ×100)

Figure 14.

( )  
 (\*)  
 ( 4 , Gomori's  
 Trichrome Stain, ×20)

Figure 15.

( 4 , Gomori's  
 Trichrome Stain, ×100)

Figure 16.

( 4 , Gomori's  
 Trichrome Stain, ×100)

Figure 17. ( )

(\*)  
 ( 8 ,  
 Gomori's Trichrome Stain, ×40)

Figure 18. ( 8 ,  
 Gomori's Trichrome Stain, ×100)

## The Effect of Calcium - Phosphate Bovine Bone Powder on Guided Tissue Regeneration Using Biodegradable Membrane in Dogs

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The present study evaluated the effects of guided tissue regeneration using biodegradable membrane, with and without calcium - phosphate thin film coated deproteinated bone powder in beagle dogs.

Contralateral fenestration defects(6 × 4 mm) were created 4 mm apical to the buccal alveolar crest on maxillary canine teeth in 5 beagle dogs. Ca - P thin film coated deproteinated bone powder was implanted into one randomly selected fenestration defect(experimental group). Biodegradable membranes were used to provide bilateral GTR. Tissue blocks including defects with overlying membranes and soft tissues were harvested following a four - & eight - week healing interval and prepared for histologic

analysis.

The results of this study were as follows.

- 1.....The regeneration of new bone, new periodontal ligament, and new cementum was occurred in experimental group more than control group.
- 2.....The collapse of biodegradable membranes into defects were showed in control group and the space for regeneration was diminished. In experimental group, the space was maintained without collapse by graft materials.
- 3.....In experimental group, the graft materials were resorbed at 4 weeks after surgery and regeneration of bone surrounding graft materials was occurred at 8 weeks after surgery.
4. ....Biodegradable membranes were not resorbed at 4 weeks and partial resorption was occurred at 8 weeks but the framework and the shape of membranes were maintained. No inflammation was showed at resorption.

In conclusion, the results of the present study suggest that Ca - P thin film coated deproteinated bone powder has adjunctive effect to GTR in periodontal fenestration defects. Because it has osteoconductive property and prohibit collapse of membrane into defect, can promote regeneration of much new attachment apparatus.