

I.

가

1, 2).

가 ,

가

,³⁾

가

가

Nyman Millipore

,⁴⁻⁶⁾

가

filter

^{15,16)}

Nyman ,

7)8).

Becker , Gottlow , Pontorieto

Caffesse expanded polytetrafluoroeth - ylene(e - PTFE)

가

morphogenic factor

^{9, 10).}

^{17-22).} e - PTFE

가

,¹¹⁾ 1976 Melcher가

가

¹²⁾ 1980

4가

가

가

가

^{13-16).}

collagen²³⁻

,
가

28), atelocollagen²⁹⁾, polylactic acid(Guidor Matrix Barrier)^{30,31)}, polyglactin 910(Vicryl Mesh)³²⁻³⁴⁾, glycolide & lactide copoly -

mer(Resolut Regenerative Material)^{35,36)}

8 가
12

가

37,38)

Bio - mesh²⁾

39 - 44)

expanded polyte -

Gore - Tex

trafluoroethylene(e - PTFE)

가

II.

39,40,45)

46 -

1.

48)

1994

1999

가 22 ,

39,49,50)

27

Tex (Gore Inc, USA)

Gore -

Bio - mesh (

,)

, 5

2

26 ,

14

가

1

Godfredsen

750 mg Amoxicillin

5

polymer

3 375 mg Amoxicillin

polyhydroxybutyrate(PHB)

10

가

,⁵¹⁾ Sevor

2.

⁵²⁾ Pajarola

polyglycolid

Biofix

shoulder

21

8

1

head

⁵³⁾

Bio - mesh²⁾

(Figure 1).

polylactic acid(PLA), polygly -
colic acid(PGA), lactic/glycolide copoly -
mer(PLGA) , 4

(?)

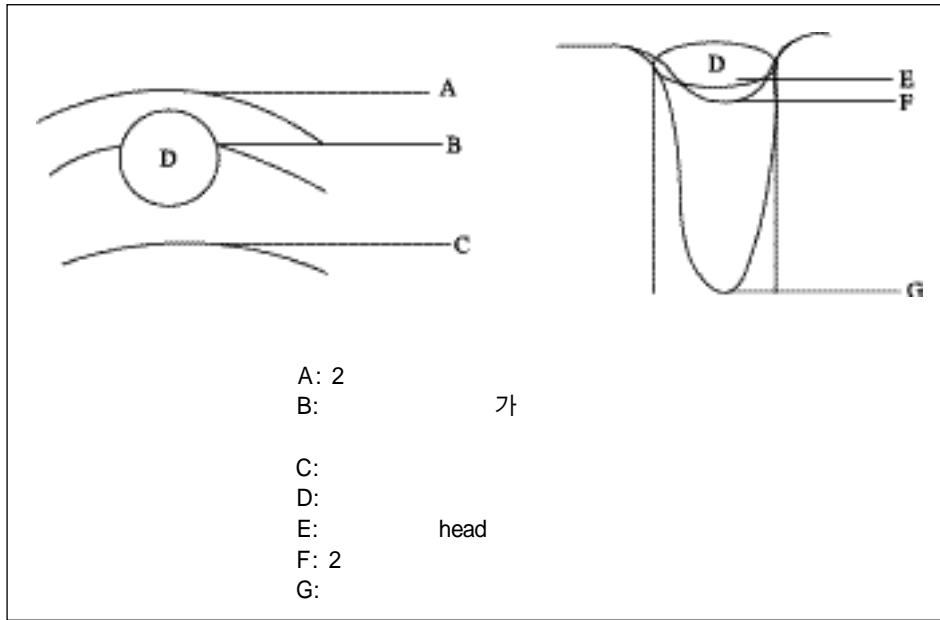


Figure 1. The method of measurement

/4(0.79) (chlorhexidine)
 Gore - tex?
 3. 가 6
 Gore - Tex (inner portion) 4. 2
 3 mm 2.1 , 26.5 ± 3.8 13.8 ±
 가가가
 2
 Gore - tex () 가
 10 가
 가 1 , 6 , 3

Table 1. The location of implant dehiscence defects in the dentition

	Mandible	Maxilla
Incisor	2	1
Canine	1	3
Premolar	8	1

Table 2. Ridge width change of implant dehiscence defect pre or post OP. with Nonresorbable membrane

	Length(mm)	Width(mm)		Length(mm)		Width(mm)	
		pre - OP	post - OP			pre - OP	post - OP
1	2.4	4.0	5.0	9	8.4	3.0	4.5
2	2.4	3.5	4.5	10	4.2	3.5	5.5
3	4.8	3.5	4.5	11	1.8	4.0	5.0
4	3.0	4.0	4.0	12	1.2	4.0	4.0
5	1.8	4.0	5.0	13	3.0(1.2)	3.5	3.0
6	5.4	3.5	4.0	14	1.8	3.5	4.0
7	4.2	3.5	4.5	15	1.8	4.0	4.5
8	1.2	3.5	4.0				
Average					3.36	3.6	4.4

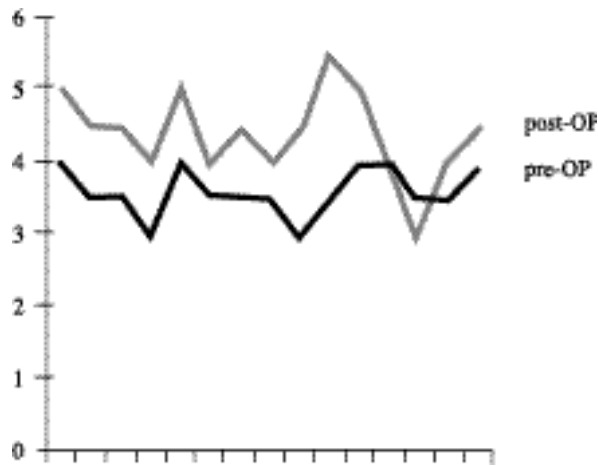


Figure 2. Ridge width with Nonresorbable membrane

1.

5.

Windows Version. 8.0 SPSS

Wilcoxon 's matched pairs signed rank test

Mann Whitney test

III.

2 , 1 , 8

12 , 3 ,

1

2.

3.36mm ± 1.96

3.6mm ± 0.34

4.4mm ± 0.6

Table 3. Surface area change of implant dehiscence defect pre or post OP. with Nonresorbable membrane

	Surface area(mm ²)				Surface area(mm ²)		
	pre - OP	post - OP	difference		pre - OP	post - OP	difference
1	7.5	9.4	1.9	9	19.8	29.7	9.9
2	6.6	8.5	1.9	10	11.6	18.1	6.6
3	13.2	17.0	3.8	11	5.7	7.1	1.4
4	7.1	9.4	2.4	12	3.8	3.8	0.0
5	15.1	18.9	3.8	13	8.2	2.8	- 5.4
6	14.8	17.0	2.1	14	4.9	5.7	0.7
7	11.6	14.9	3.3	15	5.7	6.4	0.7
8	3.3	3.8	0.5				
Average					9.25	11.48	2.23

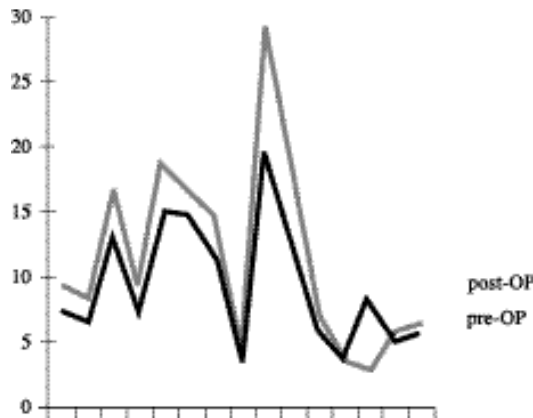


Figure 3. Surface area with Nonresorbable membrane

Table 4. Ridge width change of implant dehiscence defect pre or post OP. with resorbable membrane

	Length(mm)		Width(mm)			Length(mm)		Width(mm)	
	pre - OP	post - OP	pre - OP	post - OP		pre - OP	post - OP	pre - OP	post - OP
1	11.4	3.5	4.5	7	3.0	4.0	4.5		
2	1.8	3.5	4.0	8	6.6	3.0	4.0		
3	5.4	3.5	4.5	9	5.4	3.5	4.5		
4	4.8	3.5	4.0	10	9.6	4.0	4.5		
5	3.6	3.5	4.0	11	6.0	3.5	4.0		
6	4.2	3.0	4.0	12	3.0(1.8)	3.0	2.5		
Average					5.4	3.46	4.1		

3. , 4.84 9.25mm²,
7.52 11.48mm²,
2.23mm²,

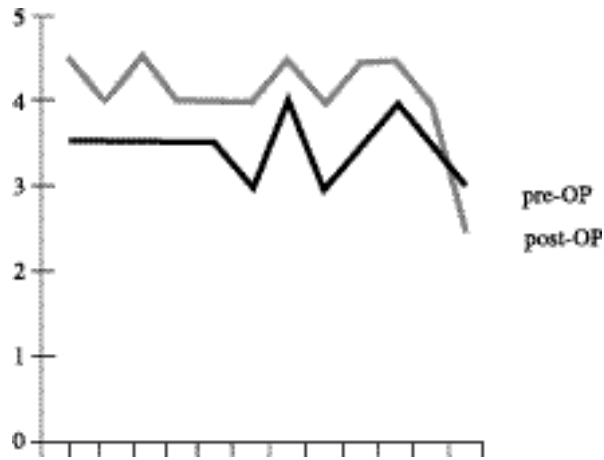


Figure 4. Ridge width with resorbable membrane

Table 5. Surface area change of implant dehiscence defect pre or post OP. with resorbable membrane

	Surface area(mm ²)				Surface area(mm ²)		
	pre - OP	post - OP	difference		pre - OP	post - OP	difference
1	31.3	40.3	9.0	7	9.4	10.6	1.2
2	4.9	5.7	0.7	8	15.6	20.7	5.2
3	14.8	19.1	4.2	9	14.8	19.1	4.2
4	13.2	15.1	1.9	10	30.2	33.9	3.8
5	9.9	11.3	1.4	11	16.5	18.9	2.4
6	9.9	13.2	3.3	12	7.1	3.5	-3.5
				Average	14.8	17.61	2.81

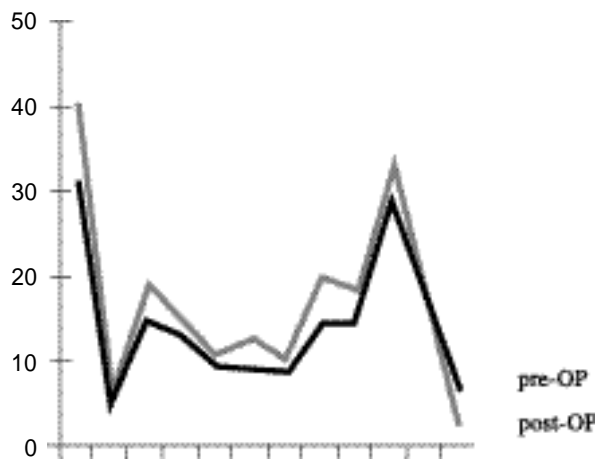


Figure 5. Surface area with resorbable membrane

3.34 .

(P<0.05).

4. ridge width

5.4mm ,

2.78 .

3.46mm ,

0.33 , 4.1mm,

0.6 .

5. ,

14.8mm²,

8.25 , 17.61mm²,

10.67 , 2.81mm²,

3.00 .

(P<0.05).

6. 2.23±3.34

2.81±3.00

가 가

(P>0.05).

IV. 가 가

13 - 16),

가 e -

PTFE

17 -

22)

가 .

e - PTFE

가 .^{23) - 36) Simion⁴⁸⁾}

가가

e - PTFE

, Sevor

52).

Pajarola

Biofix[?] 21 8 1

polyglycoid

53) Zitzmann

Gore - Tex[?]

Bio - Gide[?] collagen

Bio - Gide[?] 92%, Gore - Tex

78% .⁵⁴⁾

12

8

3.6mm

0.34 ,

가 4.4mm, 0.6 .

3.34 . 9.25mm², 4.84 2
 11.48mm², 7.52 .
 2.23mm²,
 1. ,
 2 2.27 2
 가 가
 Gore - Tex 3. (mm²)
 98% 가 9.25 ± 4.84 11.48 ±
 가 7.52 가 (P<0.05).
 65% Zitzmann 4. (mm²)
 54) . 14.80 ± 8.25 17.61 ±
 , 10.67 가 (P<0.05).
 3.46mm , 5. 가 2.23
 0.33 , 4.1mm, ± 3.38 ,
 0.6 . 가 2.80 ± 3.00
 가 (P>0.05).
 14.8mm², 8.25 ,
 17.61mm², 10.67
 2.81mm², 3.00 .

가 .
 polylactic acid(PLA), polyg -
 lycolic acid(PGA), lactic/glycolic copoly -
 mer(PLGA) Bio - mesh

Gore - Tex?
 , 가
 Bio -
 mesh? e - PTFE

V.

27

가

VI.

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Resorbable versus Nonresorbable
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852
- Abstract -

Comparison of Resorbable and Nonresorbable Membrane for Guided Bone Regeneration in Implant Dehiscence Defects

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Sung - Bin Yim

Department of Periodontology, College of
Dentistry, Dankook University

The purpose of this study was to examine the frequency of dehiscence bone defect on peri - implant and to compare the difference between resorbable membrane and non - resorbable membrane in bone regeneration on peri - implant.

Among the patients, 22 patients who have received an implant surgery at the department of Periodontics in Dankook University Dental Hospital showed implant exposure due to the dehiscence defect and 27 implants of these 22 patients were the target of the treatment.

Gore - Tex and Bio - mesh were applied to the patients and treated them with

antibiotics for five days both preoperatively and postoperatively. Reentry period was 26 weeks on average in maxilla and 14 weeks on average in mandible.

The results were as follows :

1. Dehiscence bone defect frequently appeared in premolar in mandible and anterior teeth in maxilla respectively.
2. Among 27 cases, 2 membrane exposures were observed and in these two cases, regenerated area was decreased.
3. In non - resorbable membrane, bone surface area 9.25 ± 4.84 preoperatively and significantly increased to 11.48 ± 7.52 postoperatively. ($P < 0.05$)
4. In resorbable membrane, bone surface area was 14.80 ± 8.25 preoperatively and meaningfully widened to 17.61 ± 10.67 postoperatively. ($P < 0.05$)
5. The increase of bone surface area in non - resorbable membrane was 2.23 ± 3.38 and the increase of bone surface area in resorbable membrane was 2.80 ± 3.00 ; therefore, there was no significant difference between these two membranes ($P < 0.05$).

This study implies that the surgical method using DFDB and membrane on peri - implant bone defect is effective in bone regeneration regardless the kind of the membrane, and a similar result was shown when a resorbable membrane was used.