

# 자가치아이식술의 장기적인 임상적 평가

## Evaluation of Autotransplantation

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### ABSTRACT

**Purpose:** Many clinical studies have reported that higher success rates are achieved with teeth that have immature roots than other autotransplanted teeth that have more immature root. However, based on date published recently, the success rate of autotransplantation of teeth with complete root formation was higher. The purpose of this study was to examine the long term(2 to 6 years follow-up) success rate of autotransplantation of third molar with complete root formation and to discuss some conditions and prerequisites for success.

**Materials and Methods:** 26 sites of 24 patients aged 26 to 55 (mean age 40.8) were autotransplanted with third molars with complete root formation. These cases were followed for 2 to 6 years after surgery. The success criteria included (1) no discomfort during functioning (2) absence of progressive root resorption and alveolar bone resorption.

**Result:** Of 26 teeth 5 teeth were failed, therefore success rate is 81%(21/26 teeth). The results suggested that higher success rate is acquired from (1) extraction socket due to dental caries (2) mandibular recipient site (3) patient younger than 40 years old. Autotransplantation of third molar to replace molars with advanced periodontal disease also showed considerably high success rate(84%).

**Conclusion:** With appropriate case selection, autotransplantation of third molar with complete root formation remains a viable alternative for replacing a missing molar tooth. (*J Korean Acad Periodontol 2008;38:225-230*)

**KEY WORDS:** autotransplantation; third molar; success.

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 : 2007 7 18 ; : 2007 8 28

Andreasen<sup>5)</sup> 가  
 가  
 Kristerson<sup>4)</sup>

Nethander<sup>6)</sup>  
 Tsukiboshi<sup>7)</sup> 40  
 Tsukiboshi<sup>7)</sup> 1.  
 PDL PDL 가 2  
 가 6 24  
 Nethander<sup>8)</sup> 57 2-stage surgery 1988 26 ( 10 , 16 , : 26~55  
 1~5 follow up 89% , 1990 , 40.8 )  
 Andreasen<sup>5)</sup> 151 5 가가  
 0.5~20 follow up 96% , ,  
 Tsukiboshi<sup>9)</sup> 190 2~12 follow up 90% , 30 50 가  
 가 3 , , 4 가  
 가 , 3 , 가  
 가 , , 가

**Table 1.** Number of teeth according to observation period(total 26)

Observation period	2~3yrs	3~4yrs	4~5yrs	5yrs ≥
Number of teeth	7	3	6	10

**Table 2.** Number of teeth according to gender(total 26)

Gender	Male	Female
Number of teeth	10	16

**Table 3.** Number of teeth according to age(total 26)

Age	20~30yrs	30~40yrs	40~50yrs	50yrs ≥
Number of teeth	1	13	8	4

**Table 4.** Number of teeth according to dental arch(total 26)

Dental arch	Maxilla	Mandible
Number of teeth	11	15

**Table 5.** Number of teeth according to recipient site(total 26)

Recipient site	Extraction socket (periodontal disease)	Extraction socket (dental caries)	Artificial socket
Number of teeth	19	5	2

2.

Tsukiboshi<sup>7)</sup>가

가

가

1) :

2) :

가

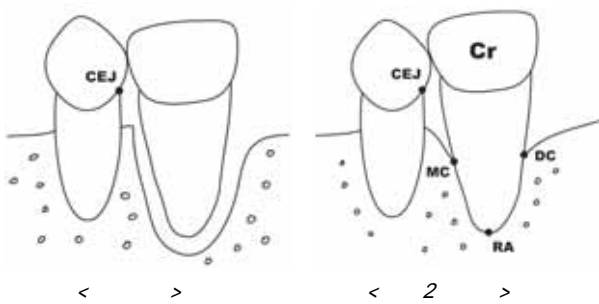
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(1600×3200dpi) 가 (EPSON EXPRESSION 1600™, EPSON Corporate, Japan)

I-Solution®(IMTechnology Inc., Daegeon, Korea)

Bjorn Schei (Fig. 1)<sup>18-19)</sup>.



**Figure 1.** Anatomical landmark for radiographic evaluation. RA, root apex; CEJ, cemento-enamel junction; MC, mesial bone crest; DC, distal bone crest  
 1. (CEJ)  
 2. (2) 가 (MC: mesial crest of alveolar bone, DC: distal crest of alveolar bone)  
 3. (RA: root apex)

1) ( )

2) (2 )

(RA-MC, RA-DC)

4.

2

2

2

Tonetti

<sup>12)</sup>

( )

= ( ) /

(2 )

2

1) = [ ~ (2 ) × ]

2) = / ( ) × 100

24 가 2

26 5 가

81%(21 / 26 )

(Table 6),

40

(Table 7).

(Table 8),

가

100%

84%

(Table. 9).

**Table 6.** Success rate according to gender

Gender	Total	Success	Failure	Success rate
Male	10	9	1	90%
Female	16	12	4	75%

**Table 7.** Success rate according to age

Age	Total	Success	Failure	Success rate
20~30yrs	4	2	2	50%
30~40yrs	8	6	2	75%
40~50yrs	13	12	1	92%
50yrs≥	1	1	0	100%

**Table 8.** Success rate according to dental arch

Dental arch	Total	Success	Failure	Success rate
Maxilla	11	8	3	73%
Mandible	15	13	2	87%

**Table 9.** Success rate according to recipient site

Recipient site	Total	Success	Failure	Success rate
Ext. socket (periodontal disease)	19	16	3	84%
Ext. socket (dental caries)	5	5	0	100%
Artificial socket	2	0	2	0%

2

46.9%,

40.2%

가

89~100%

4,7,8,13)

6

가

2

Andreasen<sup>5)</sup>

가

5

3 1

Hernandez<sup>14)</sup>

가

가

, 1

1

50~75%가

1

, Cohen<sup>15)</sup>

2~5 mm

가

가 10~13

, 3 15~19 가  
가 1/3~3/4  
2,6,14)

(Table 9). Tsukiboshi<sup>7)</sup> 95%  
57%

가  
가  
가

가 4~8  
가 2~3  
13)

(Table 9). Kristerson<sup>4)</sup> 84%  
3 가 83%

, 가 2  
26 5 가 81%(21 /26  
3 가  
13,17,18)

가  
가  
Hertwig's root sheath

가  
가  
Kristerson Andreasen<sup>19)</sup>

6,20) 26 5 가  
3 1  
, 1 , 1 1

가 가 , Kristerson<sup>4)</sup>  
24~58 18 3  
가 follow up 83%

가  
가  
3

가 40  
Tsukiboshi<sup>7)</sup>가  
40 49% , 39  
75%

(Table 7). 가 2  
, 40 ,

(Table 8), 가  
(100%) 가  
(84%) , 가  
(0%) 가 가

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