

# 교정치료시 하악 전치부 치은퇴축의 고려

1\*, 2

1.

2.

## Gingival recession of lower anterior incisors in orthodontic treatment

Yun-Sang Kim<sup>1\*</sup>, Jin-Hyoung Cho<sup>2</sup>

1. Department of Periodontology, Sanbon Dental Hospital, School of Dentistry, Wonkwang University

2. Department of Orthodontics, Sanbon Dental Hospital, School of Dentistry, Wonkwang University

### ABSTRACT

**Purpose:** These case reports show the orthodontic treatment of lower anterior incisors with gingival recession.

**Materials and Methods:** Three cases were treated by an orthodontist and a periodontist. Each case had lingually tilted lower anterior incisors, anterior crossbite and skeletal Cl III pattern.

**Results:** A variety of etiological factors were thought to cause gingival recession: aging, oral hygiene, tooth malpositioning, occlusal trauma.

**Conclusion:** Due to the interaction among many possible contributing factors, it is difficult to predict whether further gingival recession may occur at a given site. The position and the movement of the lower anterior incisors with gingival recession are important factors in diagnosis and orthodontic treatment planning. (*J Korean Acad Periodontol* 2008;38:215-224)

**KEY WORDS:** gingival recession; lower anterior incisor; orthodontic treatment.

, , , , ,  
,

, , , , 가

가

1-3)

< |>

4-8)

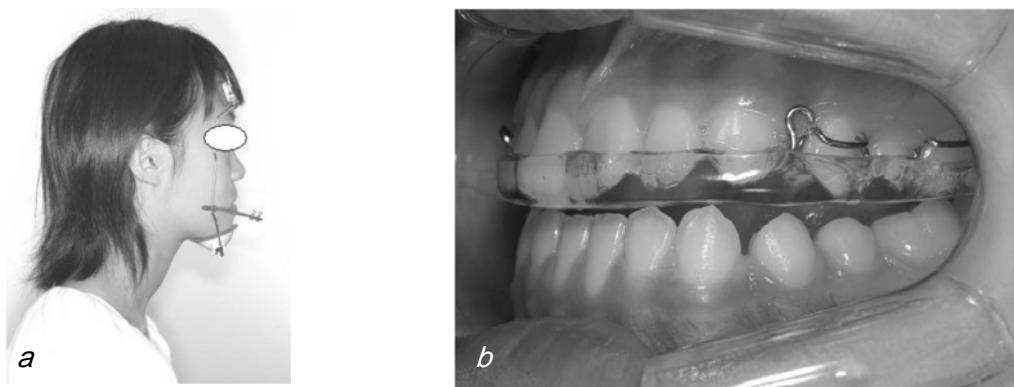
11 가

Correspondence: Dr. Yun-Sang Kim,  
Department of Periodontology, Dental Hospital in Sanbon,  
Wonkwang university, 1142 Sanbon-Dong, Kunpo, 435-040, Korea.  
e-mail: den94@wonkwang.ac.kr., Tel: 82-31-390-2875, Fax: 82-31-390-2777

\* : 2006  
: 2008 4 11 ; : 2008 5 6



**Figure 1.** Case 1, Intraoral views at first visit. (2005.07.28)



**Figure 2.** Case 1, Intraoral & extraoral views during orthodontic treatment. (2005.10.19)

(Fig. 2b),

가

2

(Fig. 1).

Face mask with upper plate

(Fig.

1

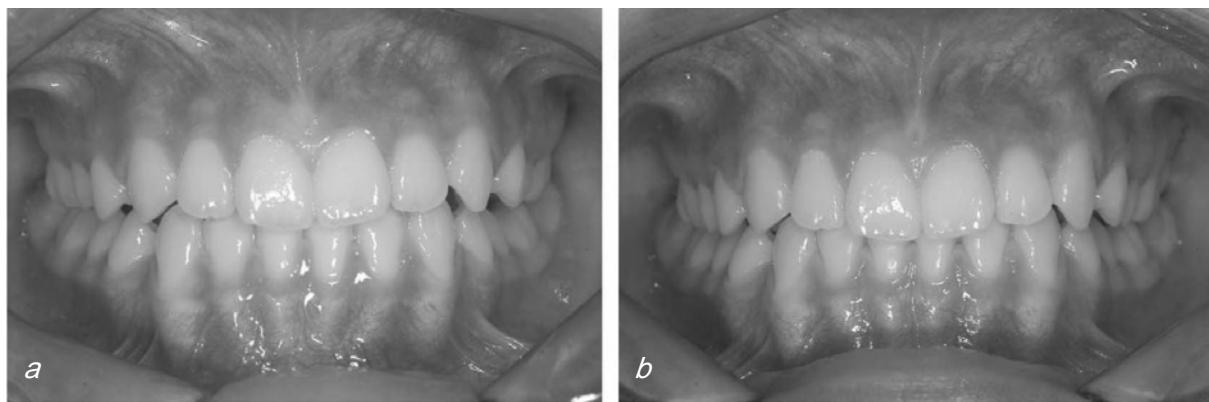
가

2a),

(Fig. 3a).

2

(Fig. 3b).



**Figure 3.** Case 1, Intraoral views after orthodontic treatment. Left view after 1 year. Right view after 2 years.

< II>

9 가

가  
(Fig. 5).

(Fig. 4).

가

가

III

1 #31

#31

Face mask with upper plate

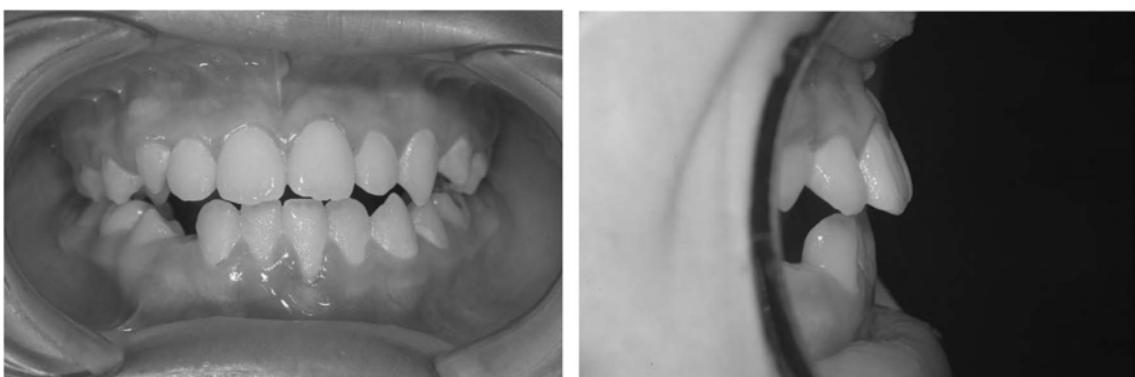
가  
#31  
(Fig. 6).



**Figure 4.** Case 2, Intraoral views at first visit. (2006.03.31)



**Figure 5.** Case 2, Intraoral & extraoral views during orthodontic treatment. (2006.04.19)



**Figure 6.** Case 2, Intraoral views after 1 year. Gingival recession can be seen in #41. (2007.04.26)



**Figure 7.** Case 2, Intraoral views during periodontal treatment. Left view before root coverage procedure. Middle view after 2 months. Right view after 7 months.

2 가	#31	<	III>	
				15
				#11
7 가				#41

(Fig. 7).

(Fig. 8).

#11, 41, 42

#11

#11

(Fig. 9).

5

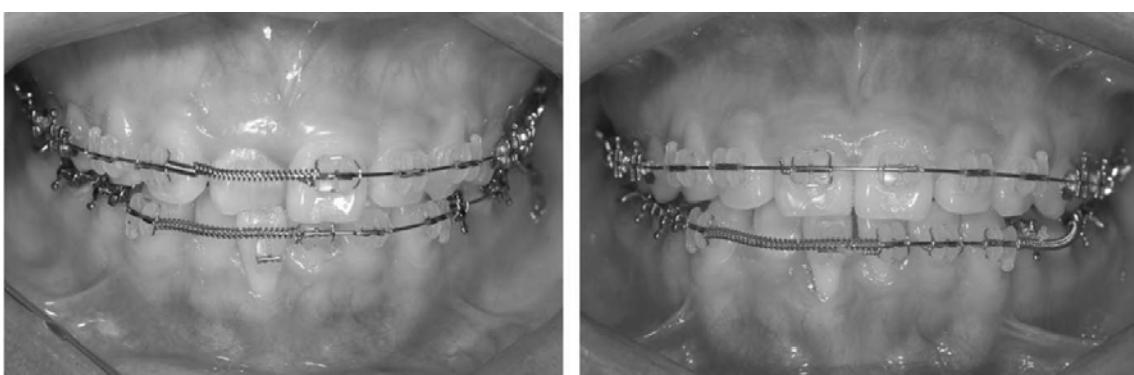
#11

#41

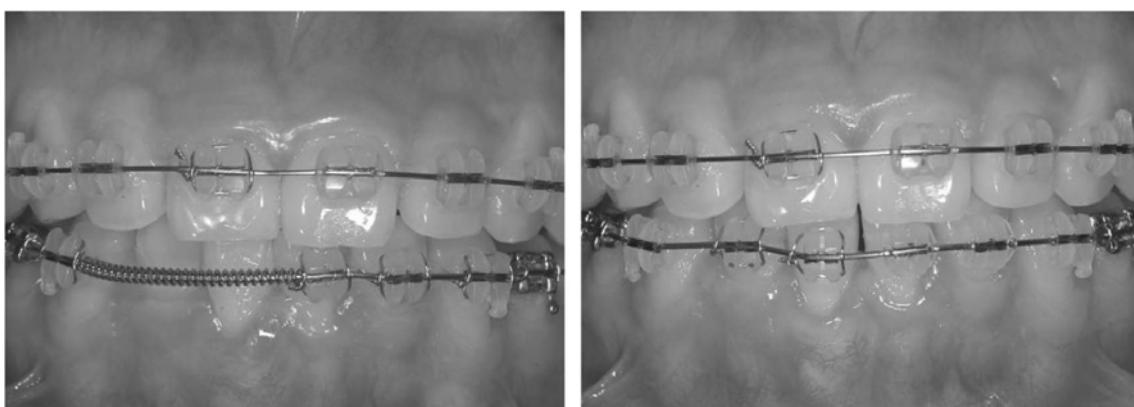
#41



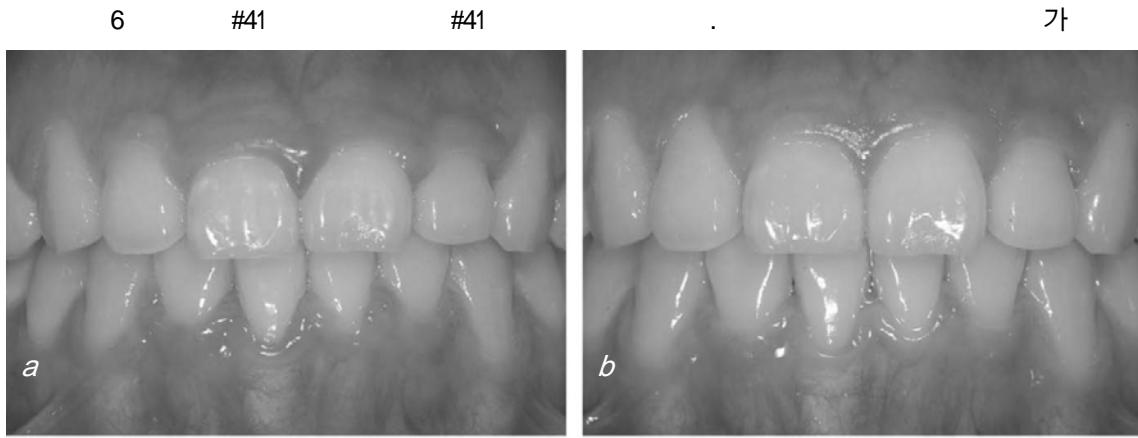
**Figure 8.** Case 3, Intraoral views at first visit. (2006.01.02)



**Figure 9.** Case 3, Intraoral views during orthodontic treatment. Left view is space regaining. Right view is during labial tipping of #11



**Figure 10.** Case 3, Intraoral views after root coverage procedure. Left view after 2 weeks. Right view after 7 weeks.



**Figure 11.** Case 3, Intraoral views after orthodontic treatment. Left view after removing orthodontic appliance. Right view after 11 months.

가 2 7 (Fig. 10).  
15

가 (Fig. 11a). 10mm 가 (Fig. 11b). 2mm

Sullivan	Atkins	shallow-narrow, deep-narrow,	shallow-wide, deep-wide			
Miller				Class	. Lang	Löe
I, II, III, IV	가			7,11).	2 mm	
				가,		

15)

가

가

16)

Wennström

6,23)

가

24,25)

17)

가

, gingival biotype, baseline recession

26)

가

가

27-29)

3

#41

가

가

6,18)

가

가

가

19)

7,20)

21,22)  
1

가

2

가

가

가

가

가

1. Reddy MS. Achieving gingival esthetics. *J Am Dent Assoc* 2003;134:295-304.
2. Addy M, Mostafa P, Newcombe RG. Dentine hypersensitivity: the distribution of recession, sensitivity and plaque. *J Dent* 1987;15:242-248.
3. Watanabe MG. Root caries prevalence in a group of Brazilian adult dental patients. *Braz Dent J* 2003;14: 153-156. Epub 2004 Mar 29.
4. Löe H, Anerud A, Boysen H. The natural history of periodontal disease in man: prevalence, severity, and extent of gingival recession. *J Periodontol* 1992;63:489-495.
5. Brown LJ, Oliver RC, Loe H. Evaluating periodontal status of US employed adults. *J Am Dent Assoc* 1990;121:226-232.
6. Kim JS, Whang HS. A Radiological Study on the Morphology of Labial Alveolar Bone in the Mandibular Incisor Area of Mandibular Prognathism Patients. *J Korean Acad Orthodontol* 1999;29:209-217.
7. Kassab MM, Cohen RE. The etiology and prevalence of gingival recession. *J Am Dent Assoc* 2003;134:220-225.
8. Broadbent JM, Williams KB, Thomson WM, Williams SM. Dental restorations: a risk factor for periodontal attachment loss? *J Clin Periodontol* 2006;33:803-810. Epub 2006 Sep 13.
9. Sullivan HC, Atkins JH. Free autogenous gingival grafts. I. Principles of successful grafting. *Periodontics* 1968;6:121-129.
10. Sullivan HC, Atkins JH. Free autogenous gingival grafts. III. Utilization of grafts in the treatment of gingival recession. *Periodontics*. 1968;6:152-160.
11. Miller PD Jr. A classification of marginal tissue recession. *Int J Perio Rest Dent* 1985;5:8-13.
12. Khader YS. Factors associated with periodontal diseases in Jordan: principal component and factor analysis approach. *J Oral Sci* 2006;48:77-84.
13. Spencer RJ, Haria S, Evans RD. Gingivitis artefacta-a case

report of a patient undergoing orthodontic treatment. *Br J Orthod* 1999;26:93-96.

14. Lang NP, Löe H. The relationship between the width of keratinized gingiva and gingival health. *J Periodontol* 1972;43:623-627.
15. Zachrisson BU, Alnaes L. Periodontal condition in orthodontically treated and untreated individuals. I. Loss of attachment, gingival pocket depth and clinical crown height. *Angle Orthod* 1973;43:402-411.
16. Closs LQ, Branco P, Rizzato SD, Raveli DB, Rösing CK. Gingival margin alterations and the pre-orthodontic treatment amount of keratinized gingiva. *Braz Oral Res* 2007;21:58-63.
17. Wennström JL. Mucogingival considerations in orthodontic treatment. *Semin Orthod* 1996;2:46-54.
18. Sperry TP, Speidel TM, Isaacson RJ, Worms FW. The role of dental compensations in the orthodontic treatment of mandibular prognathism. *Angle Orthod* 1977;47:293-299.
19. Polson AM, Zander HA. Effect of periodontal trauma upon intrabony pockets. *J Periodontol* 1983;54:586-591.
20. Paul BF, Leupold RJ, Towle HJ. Occlusal trauma: a case in perspective. *J Am Dent Assoc* 1995;126:94-98.
21. Zimmer B, Seifi-Shirvandeh N. Changes in gingival recession related to orthodontic treatment of traumatic deep bites in adults. *J Orofac Orthop* 2007;68:232-244.
22. Re S, Cardaropoli D, Abundo R, Corrente G. Reduction of gingival recession following orthodontic intrusion in periodontally compromised patients. *Orthod Craniofac Res* 2004;7:35-39.
23. Dorfman HS. Mucogingival changes resulting from mandibular incisor tooth movement. *Am J Orthod* 1978;74:286-297.
24. Ruf S, Hansen K, Pancherz H. Does orthodontic proclination of lower incisors in children and adolescents cause gingival recession? *Am J Orthod Dentofacial Orthop* 1998;114:100-106.
25. Yared KF, Zenobio EG, Pacheco W. Periodontal status of mandibular central incisors after orthodontic proclination in adults. *Am J Orthod Dentofacial Orthop* 2006;130:6.e1-6.e8.
26. Melsen B, Allais D. Factors of importance for the development of dehiscences during labial movement of mandibular incisors: a retrospective study of adult orthodontic patients. *Am J Orthod Dentofacial Orthop* 2005;127:552-561.
27. Choi YS, Yim SB, Chung CH. The comparative study of root coverage effect of different connective tissue obtaining methods. *J Korean Acad Periodontol* 1995;25:293-299.

28. Vanarsdall RL, Corn H. Soft-tissue management of labially positioned unerupted teeth. Am J Orthod Dentofacial Orthop 2004;125:284-293.
29. Ong MM, Wang HL. Periodontic and orthodontic treatment in adults. Am J Orthod Dentofacial Orthop 2002;122:420-428.

