

## 전산화 단층 촬영을 이용한 비골 골절의 새로운 분류 및 임상적 적용

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### New Classification of Nasal Bone Fractures Using Computed Tomography and Its Clinical Application

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#### —ABSTRACT—

**Background and Objectives** : There are many classifications of nasal bone fracture. The majorities of fractures are according to direction and degree of fracture. But no paper has reported the clinical application of classification of nasal bone fracture by CT (Computed Tomography) scans. The purpose of this study is to evaluate the practical effectiveness of new classification of nasal bone fracture according to CT scan. **Materials and Methods** : We studied 121 patients with nasal bone fracture which was diagnosed with facial CT scans. Type I fracture is unilateral thin bone fracture. Type II fracture is bilateral thin bone fracture. Type III fracture is bilateral fracture including thin and thick bone. Type IV fracture includes the neighboring bone fractures. Each types are subdivided into 's' and 'o' according to presence and absence of septal fracture. Doctor's and patient's satisfactions were investigated after minimal 6 months later by visual analogue scale. All results were statistically confirmed. **Results** : Patient's and doctor's satisfactions were statistically lower in severe fractures and septal fractures. Satisfactions of open reduction was high than closed reduction in Type III fractures. **Conclusion** : New classification systems help to decide surgical procedures and predict operative results. (J Clinical Otolaryngol 2005;16:270-274)

**KEY WORDS** : Nasal bone · Fractures · Classification · Computed tomography.

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대상 및 방법

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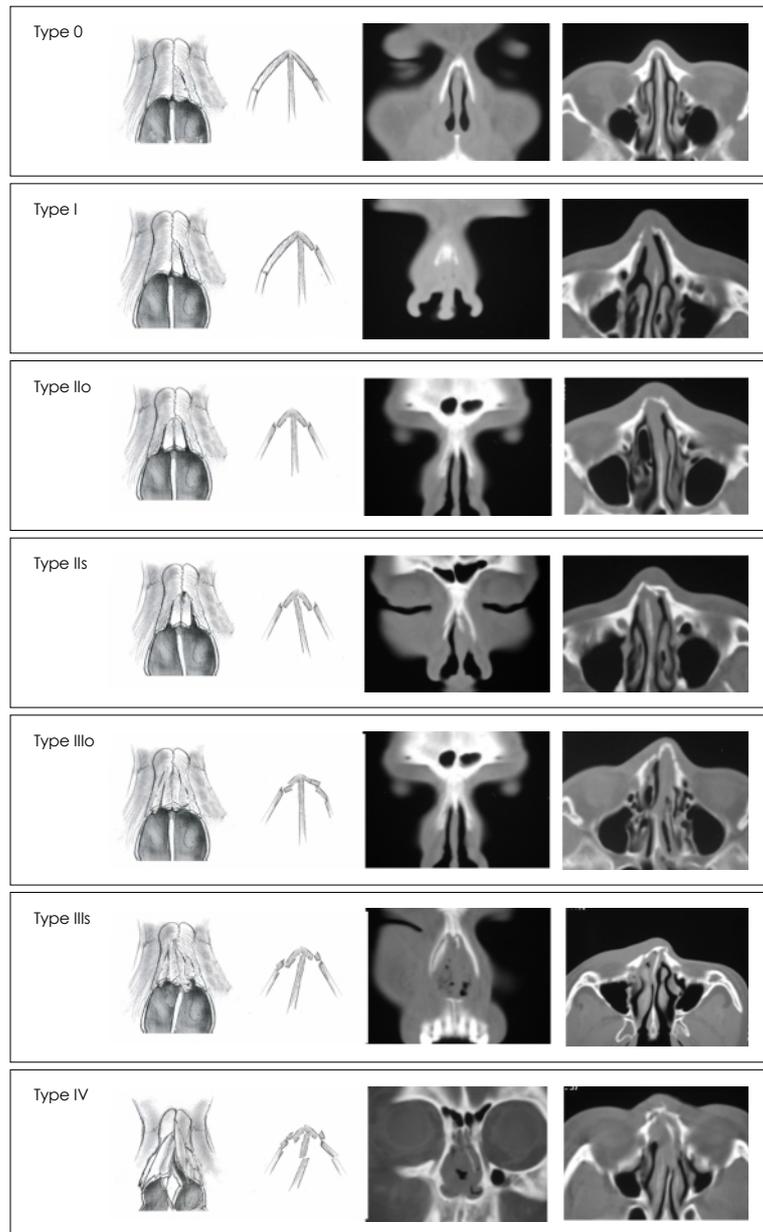


Fig. 1. Classification of nasal bone fracture.

6 가 121  
 2 mm  
 1/2  
 1/2  
 Type O  
 , Type I  
 가  
 , Type II  
 , Type III  
 . Type IV  
 , , , ,  
 .  
 o  
 .

Type IV  
 Type O, I, Ilo, IIs, IIIo, IIIs, IV 가  
 (Fig. 1).  
 Type  
 6  
 3 가  
 Visual analogue scale  
 0  
 Mann - Whitney U  
 0.05 .

**결 과**

121 Type IIIs 가  
 27 가 , Type I, IIs, IIIo

Type O 8 , Type IV 8 (Table 1).  
 Type IIIs 27 15 ,  
 Type IV  
 98  
 Type Visual analogue scale  
 Type O 6  
 가 , Type  
 grade가 가  
 . Type  
 Type  
 (p<0.05), Type IIs Type  
 (p>0.05).  
 IIIo  
 Type IV  
 가  
 (Table 2).

**Table 1.** Classification of nasal bone fracture by CT scan

Type of fracture	No of patients (%)
Type O	8 ( 7)
Type I	23 ( 20)
Type Ilo	13 ( 10)
Type IIs	20 ( 16)
Type IIIo	22 ( 18)
Type IIIs	27 ( 22)
Type IV	8 ( 7)
Total	121 (100)

**Table 2.** Degree of satisfaction after reduction of nasal bone fracture evaluated by Visual analogue scale

Type	Patients	Doctors
Type I	4.96 ± 0.21	4.94 ± 0.20
Type Ilo	4.20 ± 0.62	4.30 ± 0.64
Type IIs	3.54 ± 0.66	3.38 ± 0.59
Type IIIo	3.60 ± 0.52	3.66 ± 1.40
Type IIIs	2.81 ± 0.79	2.84 ± 0.82
Type IIIs*	4.25 ± 0.46	4.30 ± 0.37
Type IV*	3.63 ± 1.51	3.48 ± 1.63

\* : open reduction

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### 고 찰

가

가

Manson<sup>12)</sup> 가

7)

가 가

Harrison<sup>8)</sup> 15 (lateral displacement without septal fracture), (lateral displacement with septal fracture), (fractures of the nasal cap), (comminuted fractures) Becker<sup>9)</sup> 100

(green stick), (linear), (lateral), (frontal), (laterofrontal), (below) Stranc<sup>10)</sup> 가 Type

가 (lateral force fracture), (frontal impact fracture) plane 1 plane 3 Type 가 가

Murray<sup>11)</sup> 50 Type 1 0.5 cm 가

Type 2, Type 3, 4, Type 5~ Manson<sup>12)</sup> Type IIIs 가

Type IIIs

(low - energy fracture), (middle - energy nasal injuries), (high - energy nasal fractures) Pollock<sup>13)</sup> 가

3

결 론

가 가

중심 단어 :

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