

가
2.6)
4)
가

1 sec, slice thickness 5mm, table feed 5mm, pitch 1
Hitachi W400-2, Matrix 320 × 320, scan time 4.5 sec, slice
thickness 5mm, table feed 5mm, pitch 1
(bone setting view) Window 1500-2000 HU,
level 250 HU, (soft tissue view) Window
450 HU, level 50 HU

(coronal image)
(transverse image)

Sanders 8)
가가

가

2).

14

9

7

2

가

CT 8

Chi-square test

1993 7 1999 10

Essex-Lopresti

55 65

가

55

4 (57%)

가

2

8

. 14

가가

4

1 , Kashiwagi

3

41 (15, 61), 19

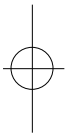
. 4

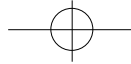
(4, 79) . 21 (38%),

24 (44%), 10 (18%)

Siemens Somatom Plus, Matrix 512 × 512, scan time

1) Sanders





가 Sanders
 가
 가
 Essex-
 . Pozo ⁵⁾ Lopresti II 16%
 , 11% III 33% 20% IV 100% 40%
 Sanders ⁸⁾ 120
 22
 Essex-Lopresti
 clamp 가
 1,3)
 가 (Fig. 2),
 (Fig. 3). Essex-Lopresti
 16%
 가 Sanders ,

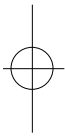
Table 1. Incidence of peroneal tenosynovitis according to Sanders classification

Classification	ORIF † (P=0.718)			Essex-Lopresti (P=0.728)		
	Negative	Positive	Incidence(%)	Negative	Positive	Incidence(%)
I	1	0	0	4	1	20
II	24	5	17	7	4	36
III	7	2	22	2	1	33
IV	4	0	0	2	1	33
Total	36	7	16	15	7	32

† : Open reduction and internal fixation

Table 2. Incidence of peroneal tenosynovitis according to author 's classification

Classification	ORIF (P=0.074)			Essex-Lopresti (P=0.009)		
	Negative	Positive	Incidence(%)	Negative	Positive	Incidence(%)
I	4	0	0	4	0	0
II	17	2	11	5	1	17
III	12	3	20	6	3	33
IV	3	2	40	0	3	100
Total	36	7	16	15	7	32



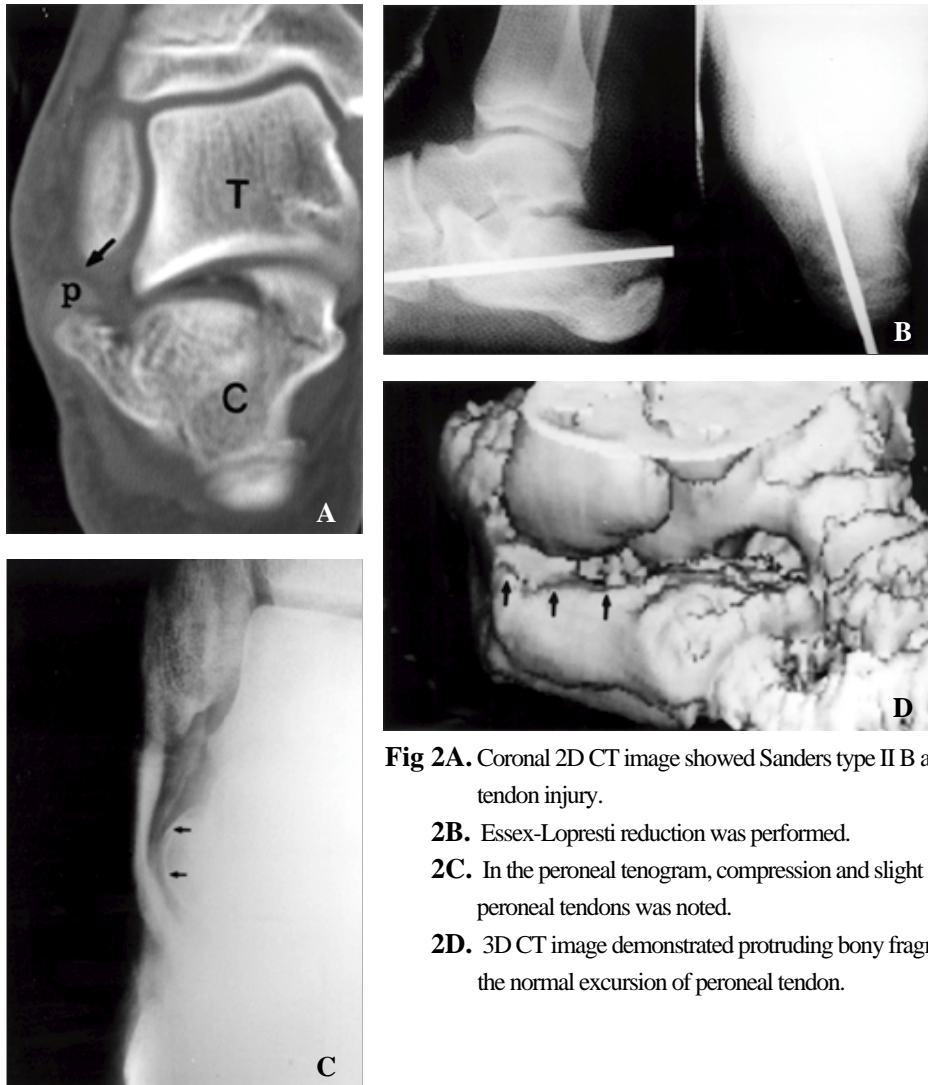
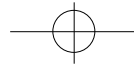


Fig 2A. Coronal 2D CT image showed Sanders type II B and type IV peroneal tendon injury.
2B. Essex-Lopresti reduction was performed.
2C. In the peroneal tenogram, compression and slight lateral displacement of peroneal tendons was noted.
2D. 3D CT image demonstrated protruding bony fragment which disturbed the normal excursion of peroneal tendon.

(Table 2)

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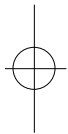
Sanders

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(Table 1).

Sanders

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III



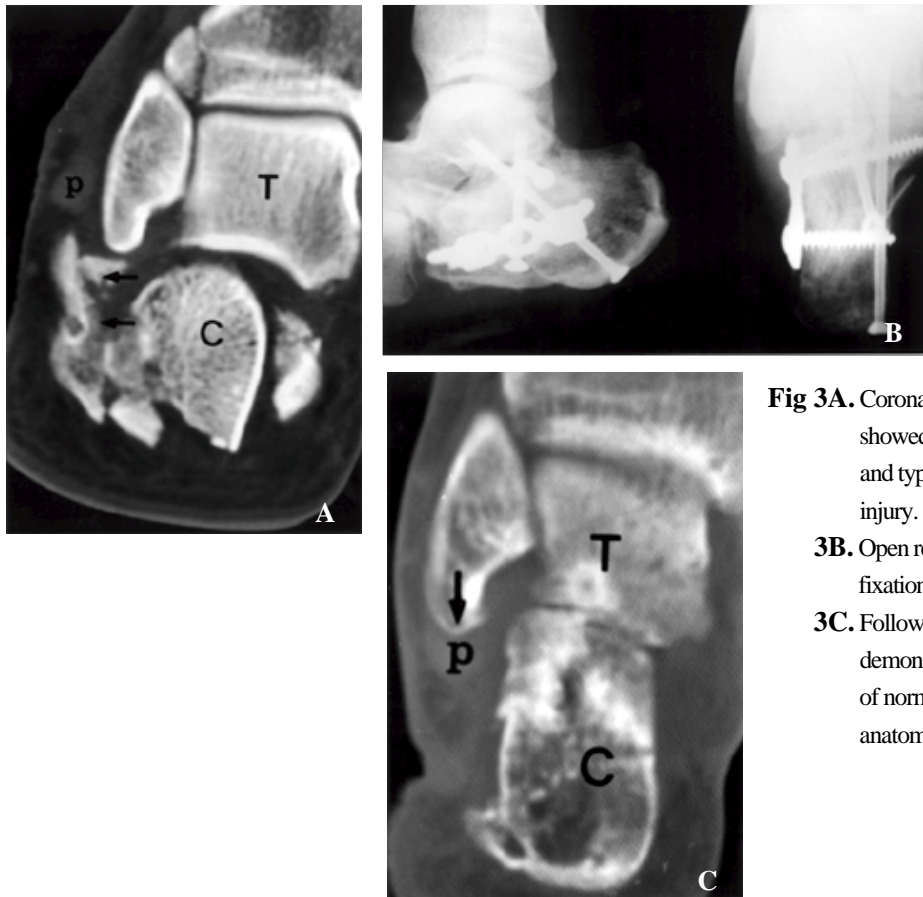
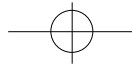
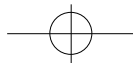


Fig 3A. Coronal 2D CT image showed Sanders type III AB and type IV peroneal tendon injury.
3B. Open reduction & internal fixation was performed.
3C. Follow-up 2D CT demonstrated the restoration of normal peroneal tendon anatomy.

IV Essex-Lopresti

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Abstract

Prediction of Peroneal Tenosynovitis in the Intraarticular Calcaneal Fractures Using Computed Tomography

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Purpose : The purpose of the current study is that CT can predict peroneal tenosynovitis in the intraarticular calcaneal fracture.

Materials and Method : Sixty five calcaneal fractures in 55 patients were evaluated with CT scan. The follow-up period after operation was averaged 19 months (ranging from 4 to 79 months). A classification for peroneal tendon injury was developed, based on CT scan.

Results : Of the 65 intraarticular calcaneal fractures, the incidence of peroneal tenosynovitis were 14 cases(26%) [open reduction and internal fixation group 7/43(16%), Essex-Lopresti group 7/22(32%)]. According to the author's classification, the incidence of peroneal tenosynovitis among open reduction and internal fixation subgroup was followed ; type I was none(0/4), type II 11%(2/19), type III 20%(3/15) and type IV 40%(2/5) respectively(p=0.074). The incidence of peroneal tenosynovitis among Essex-Lopresti subgroup was followed ; type I was none(0/4), type II 16%(1/6), type III 33%(3/9) and type IV 100%(3/3) respectively(p=0.009).

Conclusion : CT can be used to evaluate the status of the peroneal tendon as well as to predict the development of peroneal tenosynovitis. The open reduction and internal fixation in type III and IV is preferable to achieve a alignment of peroneal tendon and a accurate reduction of subtalar joint.

Keyword : Intraarticular calcaneal fracture, Peroneal tenosynovitis, Computed tomography

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