
Operative Treatment of the Proximal Phalangeal Neck Fracture in Children

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Purpose : Proximal phalangeal neck fractures in children are relatively uncommon and easily misdiagnosed if accurate radiologic evaluation is not obtained. We retrospectively analyzed 28 patients who had operative treatment for proximal phalangeal neck fractures.

Methods : Initial standard anteroposterior, true lateral, and both oblique x-ray views of the involved finger were taken thoroughly. Minimally displaced fractures were undergone closed reduction and percutaneous pinning. Open reduction and percutaneous pinning was performed in case of unstable fracture, radial or ulnar angulation of 10° or more, volar or dorsal angulation of 15° or more, malunited fractures, and gross deviation or rotation deformity clinically.

Result : The average length of follow-up was 12 months. Eight cases were treated with closed reduction and percutaneous criss-cross K-wire or 23 gauge needle pinning, which had a displacement of less than 1mm or angulation of less than 15°. Twenty cases required open reduction and internal fixation. Excellent or good results

were noted in 20 cases(71%). Complications were found in 7 cases including limitation of motion, gross deviation and button-hole deformity.

Conclusion : Proximal phalangeal neck fractures in children must be reduced accurately to avoid long-term disability. The open reduction can be a effective treatment for displaced or malunited fractures.

Key Words : Proximal phalangeal neck fracture, Operative treatment, Children

1 ~ 2%
(2,5,9,17).

Leonard Dubravcik⁹⁾ 1970
180

1990 1 1998 12
 28
 28
 가 18 , 가 10
 2 14
 18
 2 2 3 5
 18 가
 2 4 6 (Fig. 2).
 10 15 12
 가
 10
 가 15
 Kirschner
 23 gauge (Fig. 1).
 가
 1
 3



Fig. 1 Central tendon was mobilized by rubber band and fracture site was fixed with two 23 gauge needles.

가 18 , 가 10
 2 14
 18
 2 2 3 5
 18 가
 2 4 6 (Fig. 2).
 10 15 12
 가
 10
 가 15
 Kirschner
 23 gauge (Fig. 1).
 가
 1
 3

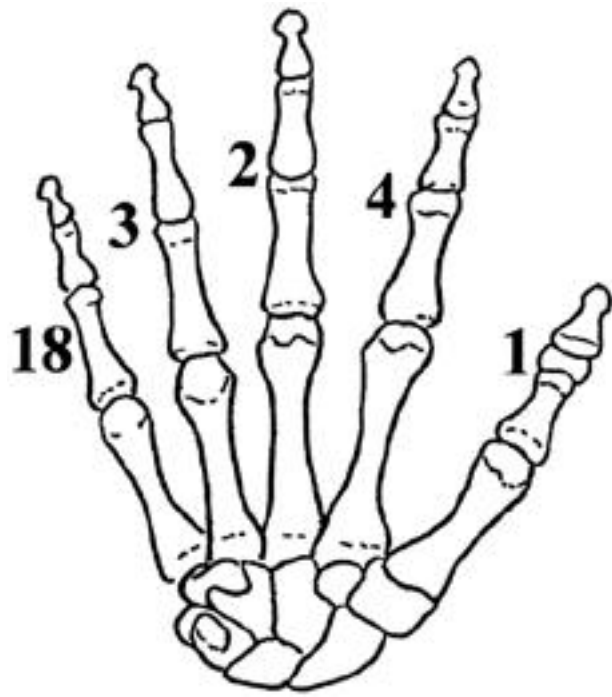


Fig. 2 Distribution of fractures of neck of proximal phalanx in children

가 20, 45, 28, 20 (pinching)
 2, 45, 가
 180, 가 6, 가
 28, 8, 가
 Kirschner, 20, 5, excellent,
 23 gauge, 16, good,
 , 4, fair, 3
 7, Kirschner, poor, 28
 가 19, 23G, excellent group 16 (57%) 가
 가 6, Kirschner 23G, good 4 (14%), fair가 5 (18%), poor가 3
 가 2, pull-out wiring, (11%), 10, 7
 가 1, 24, X, excellent, 3, good (Fig. 3).
 , 4, 7 가
 4, 가, 20, 가
 가 22, 가 3, 가 4, 가
 가 6, 가 2 mm, 가 2,
 button hole, 2, 3
 가, 가,
 5

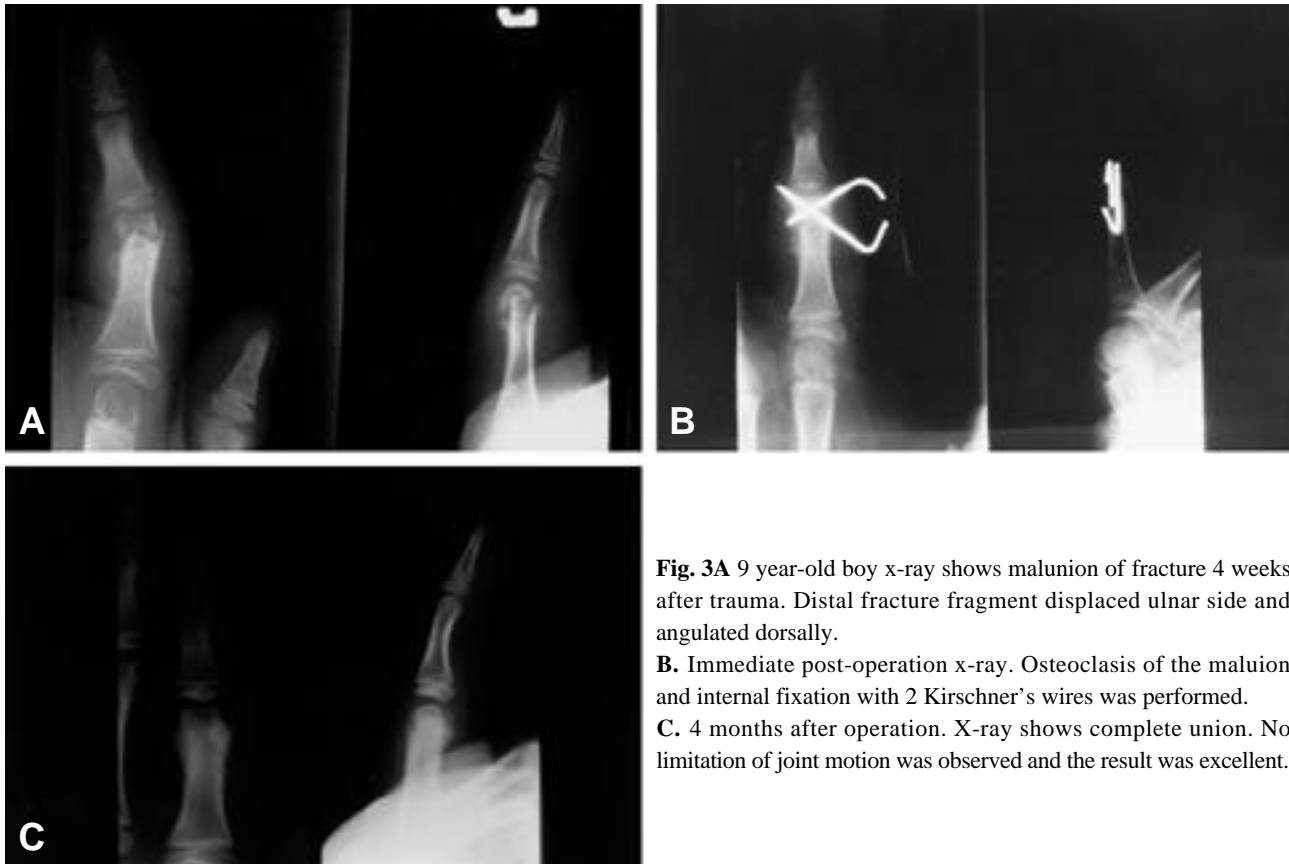


Fig. 3A 9 year-old boy x-ray shows malunion of fracture 4 weeks after trauma. Distal fracture fragment displaced ulnar side and angulated dorsally.
B. Immediate post-operation x-ray. Osteoclasis of the malunion and internal fixation with 2 Kirschner's wires was performed.
C. 4 months after operation. X-ray shows complete union. No limitation of joint motion was observed and the result was excellent.

10

Leonard Dubravcik⁹⁾ 180
 263 38 가

9 11,16)

가 180 가 1,2,4,6-8,11-13)
 Barton²⁾ 203 20 , Hasting

Simmon⁷⁾ 5
 2 mm 가

248
 30 (12.1%)

28 Leonard Dubravcik⁹⁾
 가
 가

가 Dixon Moon⁶⁾ 가
 10

가 15

Campbell³⁾
 가

가 5 가
 가 3 7 3,8,11,14)
 3 가 (16/20) (4/20)

가
 가
 Kirschner
 3,6,11,15)
 , 22 gauge 23
 gauge (power drill)
 가 가
 30% 가 가
 가 11)

2)

7) Capbell³⁾ 가
 4

28 8

Hasting Simmons⁷⁾

가 15

Kirschner , 23 gauge

가

가

가

가

가

가 ¹⁰⁾

. Leonard⁸⁾

90

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Moon⁶⁾

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(power burr)

가

42 가

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good

7 (25%)

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20

가 가 3 가 . 3

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