

## Outerbridge-Kashiwagi

— Abstract —

### Acute Ulnar Nerve Palsy after Outerbridge-Kashiwagi Procedure - A Case Report -

In-Ho Jeon, M.D., Woo-Kie Min, M.D., Chang-Wug Oh M.D.,  
Poong-Taek Kim, M.D.\*\* , In-Hwan Hwang MD.\*

*Department of Orthopaedic Surgery, Kyungpook National University, Daegu,  
Department of Orthopaedic Surgery, Gyungsang National University\*, Jinju, Korea*

The Outerbridge-Kashiwagi (O-K) procedure is one of popular procedures for the treatment of osteoarthritis of the elbow. Although reliable outcome has been reported in the literature, intraoperative and postoperative complications may occur. Acute postoperative neurologic complications are rarely reported in the literature. We report a case of acute complete ulnar neuropathy following O-K procedure in the elbow with longstanding flexion loss. Prophylactic ulnar nerve decompression during the O-K procedure should be considered in the elbows with osteoarthritis and prolonged severe flexion contracture.

**Key Words:** Elbow, Osteoarthritis, Outerbridge-Kashiwagi (O-K) procedure, Acute Ulnar Nerve Palsy

Outerbridge-Kashiwagi 가  
wagi (O-K)  
5,6)  
3,4)  
1)  
O-K 가

: \*\*

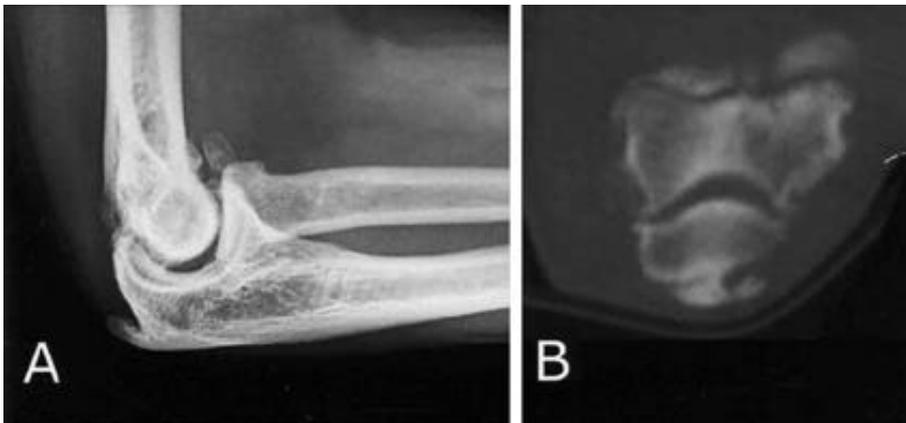
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Tel: 053) 420-5632, Fax: 053) 422-6605, E-Mail: ptkim@knu.ac.kr

(olecranon fossa) (olecranon)  
가 (Fig. 2).  
Mayo Elbow Performance Score  
45  
52  
8  
2  
45 , 90 (Fig. 1),  
O-K



**Fig. 1.** The patient presented elbow pain and motion limitation for 8 years. Preoperative active flexion (A) and extension (B) was 45~90°.



**Fig. 2.** Preoperative lateral radiograph (A) and CT scan (B) shows extensive osteophytes located in the olecranon, coronoid process, and olecranon fossa, which indicates advanced arthritis of radiohumeral and ulnohumeral joint.

90  
(splitting)

(osteotome)  
(coronoid fossa)  
(bur) (window)

(Fig. 3).

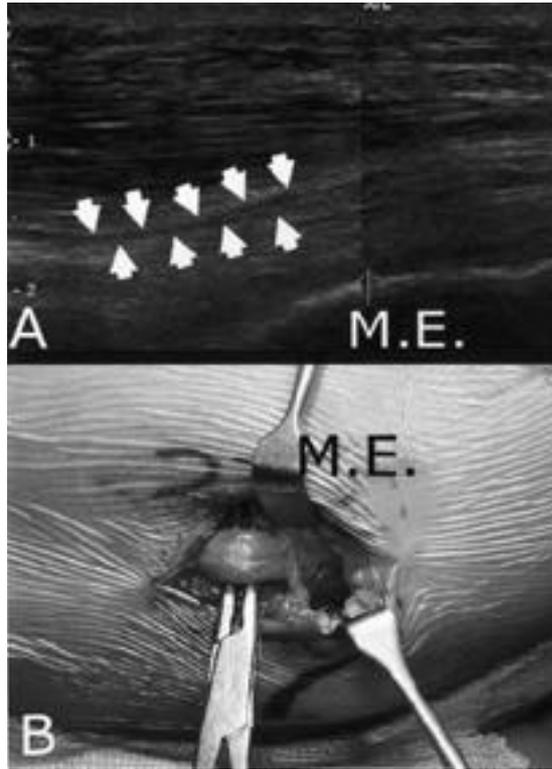
20 120

가 가 24 24

4, 5

4, 5 가 (cubital tunnel)

(medial epicondyle)  
(Fig. 4A).



**Fig. 4.** A. The ultrasonography of the ulnar nerve is performed to find the continuity of the nerve and rule out inadvertent injury during the OK procedure, however, it shows severe stretching and narrowing of the nerve (arrow heads) with edema behind the medial epicondyle (M.E.). B. The ulnar nerve is severely stretched by the medial epicondyle (M.E.) and decompression was carried out.



**Fig. 3.** Postoperative radiographs show fenestration of olecranon fossa with improved flexion of 120°.

— : Outerbridge-Kashiwagi

4

(retinaculum)

(Fig. 4B).

90  
11 mmHg

28 mmHg

가

가

가

가

가

가

7)

, 3

14

30

110

. Mayo

Elbow Performance Score 90

가

. 1978

Outerbridge-

Kashiwagi (O-K)

20

O-K

가

54%

4,6),

1).

가

3).

O-K

가

가

가

가

. Antuna 1) 46

(ulnohumeral

가

arthroplasty) 1

. Gelberman 2)

## REFERENCE

- 1) **Antuna SA, Morrey BF, Adams RA, O'Driscoll SW**: Ulnohumeral arthroplasty for primary degenerative arthritis of the elbow. long-term outcome and complications. *J Bone Joint Surg*, 84-A: 2168-73, 2002.
- 2) **Gelberman RH, Yamaguchi K, Hollstien SB, et al**: Changes in interstitial pressure and cross-sectional area of the cubital tunnel and of the ulnar nerve with flexion of the elbow. *J Bone Joint Surg*, 80-A: 492-1, 1998.
- 3) **Hirasawa Y, Katsumi Y, Kojima O**: Cubital tunnel syndrome due to osteoarthritis of the elbow; a surgical approach. *Peripheral Nerve Repair*, 2: 53-62, 1986.
- 4) **Kato H, Hirayama T, Minami A, Iwasaki N, Hirachi K**: Cubital tunnel syndrome associated with medial elbow ganglia and osteoarthritis of the elbow. *J Bone Joint Surg*, 84-A: 1413-9, 2002.
- 5) **Minami M, Kato S, Kashiwagi D**: Outerbridge-Kashiwagi's method for arthroplasty of osteoarthritis of the elbow; 44 elbows followed for 8-16 years. *J Ortho Sci*, 1: 11-6, 1996.
- 6) **Morrey BF**: Primary degenerative arthritis of the elbow; Treatment by ulnohumeral arthroplasty. *J Bone Joint Surg*, 74-A: 409-13, 1992.
- 7) **Schinsky MF, Macaulay W, Parks ML, Kieran H, Nercessian OA**: Nerve injury after primary total knee arthroplasty. *J Arthroplasty*, 16: 1048-54, 2001.
- 8) **Wada T, Isogai S, Ishii S, Yamashita T**: Debridement arthroplasty for primary osteoarthritis of the elbow. *J Bone Joint Surg*, 86-A: 233-41, 2004.