

- -

---

가 . 가

(en bloc resection)

가 (ultrahigh molecular weight polyethylene, UHMWPE) 1

---

4.7)

20% 5 10%,  
 4.7)

55% 4.7)  
 4.7)

가 가

(ultrahigh molecular weight polyethylene, UHMWPE)

3% 35 50% (UHMWPE-IM rod-Bone cement

---

215-4

Tel: 02) 920-1242, Fax: 02) 977-2954, E-mail: dgjeon@kcch.re.kr

complex)

가

6 cm

38

가

4

UHMWPE liner)

(concave

. Steinmann pin

1

가

가

가

가

(thinnig)

4 cm

2 cm

(Fig. 1).

가

MRI

, T1

T2

Campanacci

3

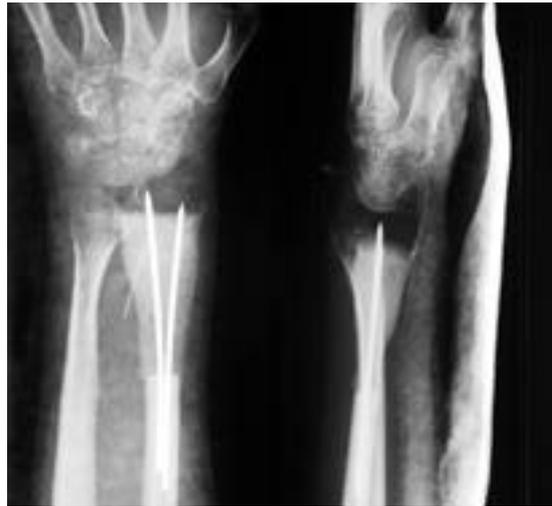


Fig. 2. Plain radiographs at immediate post-operation shows acceptable alignment of wrist.



Fig. 1. Plain radiographs at initial visit shows marked expansile radiolucent lesion in distal meta-epiphysis with cortical thinning and bone cement in the lesion.



Fig. 3. Plain radiographs at a post-operative 1 year shows mild ulnar shift.



**Fig. 4.** Plain radiographs at a post-operative 4 years 8 months shows increased ulnar shift, and degenerative change of proximal carpal bones.

(Fig. 2).  
 (nylon  
 mesh)  
 3  
 1 30 20  
 2 가  
 4 8  
 (ulnar shift)  
 가  
 (Fig. 3, 4). 10 10

6,7,10)

가

가 가

가 10),

1,3)

가

(collapse)

1,3)

(resorption)

1-3,9)

가 - -  
 (fibulo-scapho-lunate arthrodesis)

가 2,3).

가 8),

(ulna transposition) 5).

가

가

가

가  
,  
3  
가  
,  
가  
,  
가  
,  
가

REFERENCES

1) **Aithal VK and Bhaskaranand EK**: Reconstruction of the distal radius by fibula following excision of giant cell tumor. *International Orthopaedics (SICOT)*, 27:110-113, 2003.

2) **BICKERT B, HEITMANN CH and GERMANN G**: Fibulo-scapho-lunate arthrodesis as a motion-preserving procedure after tumour resection of the distal radius. *Journal of Hand Surgery(British and*

*European Volume)*, 27B(6): 573-576, 2002.

3) **Chiang IM, Chen TH, Shih LY and Lo WH**: Nonvascularized proximal fibular autograft to treat giant-cell tumor of the distal radius. *Zhonghua Yi Xue Za Zhi*, 56(5): 331-7, 1995.

4) **Dahlin DC, Cupps RE and Johnson E-W Jr**: Giant-cell tumor: a study of 195 cases. *Cancer*, 25:1061-70, 1970.

5) **Intuwongse CS**: Reconstruction following en bloc resection of a giant cell tumor of the distal radius using a vascularized pedicle graft of the ulna. *J Hand Surg[Am]*, 23(4): 742-7, 1998.

6) **Khan MT, Gray JM, Carter SR, Grimer RJ and Tillman RM**: Management of the giant-cell tumours of the distal radius. *Ann R Coll Surg Engl*, 86(1):18-24, 2004.

7) **Lawrence R M**: Orthopaedic knowledge uptade: Musculoskeletal tumors. 2nd ed, Rosemont, *American Academy of Orthopaedic Surgeons*: 113-118, 2002.

8) **Leung PC and Chan KT**: Giant cell tumor of the distal end of the radius treated by the resection and free vascularized iliac crest graft. *Clin Orthop*, 202: 232-6, 1986.

9) **Minami A, Kato H and Iwasaki N**: Vascularized fibular graft after excision of giant-cell tumor of the distal radius: Wrist arthroplasty versus partial wrist arthrodesis. *Plastic and Reconstructive Surgery*, 110(1): 112-117, 2002.

10) **O'Donnell RJ, Springfield DS, Motwani HK and Ready JE, Gebhardt MC, Mankin HJ**: Recurrence of giant-cell tumors of the long bones after curettage and packing with cement. *J Bone Joint Surg Am*, 76(12):1827-33, 1994.

## Abstract

### **Reconstruction of Distal Radius Using Ultrahigh Molecular Weight Polyethylene Liner after Excision of Giant Cell Tumor - A Case Report -**

**Dae-Geun Jeon, M.D., Won Seok Song, M.D., Jung-Moon Oh, M.D.**

*Department of Orthopedic Surgery, Korea Cancer Center Hospital, Seoul, Korea*

---

A giant cell tumor (GCT) of the distal radius is not common. Curettage with bone cementation is considered as a treatment of choice but, in the case of recurrence, marked cortical disruption, or articular invasion, en bloc excision and reconstruction with proximal fibular bone graft is usual procedure. In reconstruction of en bloc resected distal radius which had recurred GCT after conservative operation, we used the ultrahigh molecular weight polyethylene (UHMWPE) liner with intramedullary rod and bone cement, because the contamination was extent in previous operation and recurrence after fibular bone graft was fearful. This article introduce our new surgical procedure.

**Key Words:** Distal radius, Giant cell tumor, Polyethylene liner, Reconstruction

---

**Address reprint requests to**

Dae-Geun Jeon, M.D.

Department of Orthopedic Surgery, Korea Cancer Center Hospital

215-4, Gongneung-Dong Nowon-ku Seoul 139-706, Korea

TEL: 82-2-920-1242, Fax: 82-2-977-2954, E-mail: dgjeon@kcch.re.kr