

## The Features and Treatment Results of the Hemangioma in Upper Extremity

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**Purpose :** To investigate the characteristics and treatment results of the hemangioma in upper extremity, we analysed the hemangioma in upper extremity.

**Materials and Methods :** We retrospectively analysed 24 patients who have taken operative treatment for hemangioma of upper extremity from 1993 to 2000, and they were confirmed clinicopathologically. The patients were followed up by outpatient clinic and the follow up period was 12 months to 48 months. Female patients were predominant(17 cases). The age of initial visit to our hospital varied from 7 to 64 years old with the average of 32 years old. The most common symptom was palpable mass in 20 cases. Also, 5 patients visited our clinic due to recurrence. The sites of involvement were hand and wrist area in 8 cases, finger in 7 cases, forearm in 7 cases, upper arm in 1 case, and shoulder in 1 case.

**Results :** The treatments were marginal resection in 21 cases, amputation in 2 cases, and embolization in 1 case. Partial resection was performed to preserve the function of hand. Recurrence was developed in 1 case in the finger area. Cavernous hemangioma was the most com-

mon(9 cases).

**Conclusion :** We conclude that for the primary surgery of hemangioma the treatment of choice is complete marginal resection, preserving the affected area's function to the fullest. This is the only way to prevent recurrence.

**Key Words :** Upper extremity, Hemangioma, Marginal resection

가  
Kornmann  
7%<sup>7)</sup>  
가  
가  
(capillary) (cavernous)  
가

1993 2 2000 2 7 1.

24 , ,

12 48 .

(29.2%), 가 17 (70.8%) 가 7

7 64

32 . 6

20 3.5 .

가

20 (83%) 가 17

(71%) 13 54%

16

(67%) (easy fatigability)

4 (17%)

가 5

가 3 , 가 1 , 가 1

3

가 8 , 가 7 ,

가 7 , 가 1 , 가 1

(Table 1). 3×2 cm(0.5×0.3 -

10×5 cm) . 2 3

가 3 , 4 가 1

(subcuta-

neous) 2 , (Flexor muscle group) 4

(Extensor muscle group) 2

(deltoid muscle)

4 가

(57%), 2 2 (29%), 3

1 (14%) .

**Table 1.**

location	No.of Pts	%
,	8	33.3
,	7	29.1
,	7	29.1
,	1	4.2
,	1	4.2
total	24	100

가 7 4 가

(phlebolith)

4 1 , 3

(Fig. 1). 가 4

(hyperechogenic)

(angiogram)

가 6

가 (feeding vessel)

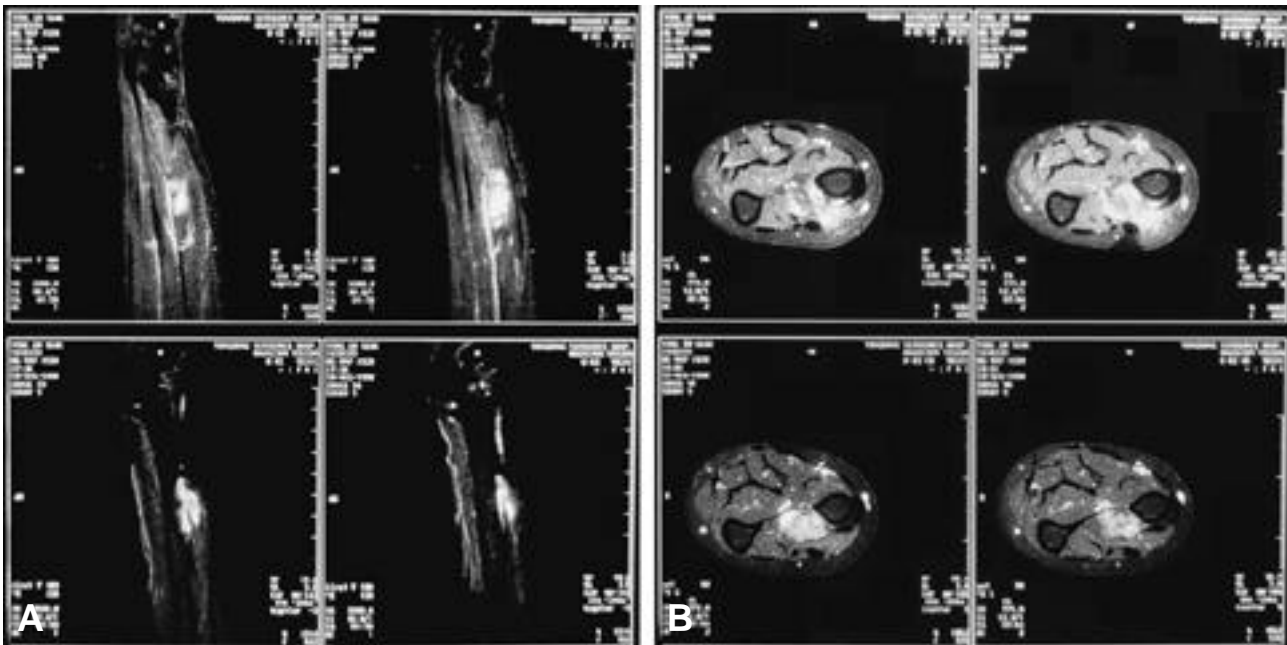


**Fig. 1.** Plain X-ray of hemangioma on hand : There are numerous irregular shaped phleboliths.

MRI 10 T1 (intermediate to low signal intensity), T2 (high signal intensity), (Fig. 2).

가 MRI 19 2 (epidermis) (dermis) 3. (Fig. 3). 2 1 3 가 가 5 가 3 가 5 5 가 가 가 가

2. (cavernous hemangioma) (venous hemangioma) 9 가 (capillary hemangioma) 5 가 (arteriovenous hemangioma), (cavernous mixed capillary hemangioma), (angiokeratoma) 1 가 가



**Fig. 2.** MRI of hemangioma on forearm. **A.** T2 weighted image with fat suppression shows that the lesion of high signal intensity is noted in the extensor muscle group of forearm. **B.** T1 weighted image after Gd enhancement shows highly enhanced lesion on the extensor muscle group of forearm.



Fig. 3. Embolization of hemangioma on 3rd finger : Plain X-ray shows that injected alcohol with contrast dye is placed in the lesion.

7%<sup>7)</sup>.  
 Geschickter Keasbey 570  
<sup>4)</sup> 370 , , 135 ,  
 43 , 10 , 10  
 . Davis Kitlowksi  
 26.1%가  
 (forearm  
 flexor) 10.3% 가<sup>2)</sup>.  
 369 가 가  
 66 24 15.4% .  
 가 가 ,  
 가 가  
<sup>2,3)</sup> Bendeck Ligh-  
 tenberg  
 Carpenter <sup>1)</sup> 10 48%, 20  
 79%, 30 94% 30  
 20  
 가 12 52%  
 30 가 65% .  
 . 24  
 가 17 (70.8%)  
 Shallow, Eger, Wagner  
 4 60% (26%),  
 1 (25%)<sup>11)</sup>.  
 가 83%, 71%, 54%,  
 (easy fatigability) 17%  
 가 67%  
 가 5  
 3  
 가  
 가  
 Kornmann 가  
 2 ~ 3%

가

MRI

4 가

5,7,10)

1

MRI

(epitheloid hemangioma), (granulation tissue type hemangioma)

(cutaneous), (intramuscular), (synovial), (peripheral nerve)

3). Boyd Muscatello

가 6,8,11)

Franz 14)

9 가

가

가

6,12)

가 가

6

가 5 , 가 1

가 4 가

가

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