

# Hemophilic arthropathy in pediatric patients with hemophilia A: comparison of early and late prophylaxis

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## Objectives

To evaluate the effect of early prophylaxis, we investigated the influence of prophylaxis-starting age and number of joint bleedings on the radiological score of joints in patients with severe hemophilia A treated at Korea Hemophilia Foundation Clinic from 2006 to 2011.

## Methods

Twenty four patients with severe hemophilia A who have been received prophylaxis were analyzed. Patients were divided into two groups; 12 patients in group 1 (G1) who started prophylaxis before 7 years of age and 12 patients in group 2 (G2) who started at the age of 7 years or more. All patients received low dose prophylaxis (10-15 unit/kg body weight three times a week.) The radiological alterations of joints (knee, elbow, ankle) were assessed by Pettersson score (PS).

## Results

### Group 1 (early prophylaxis)

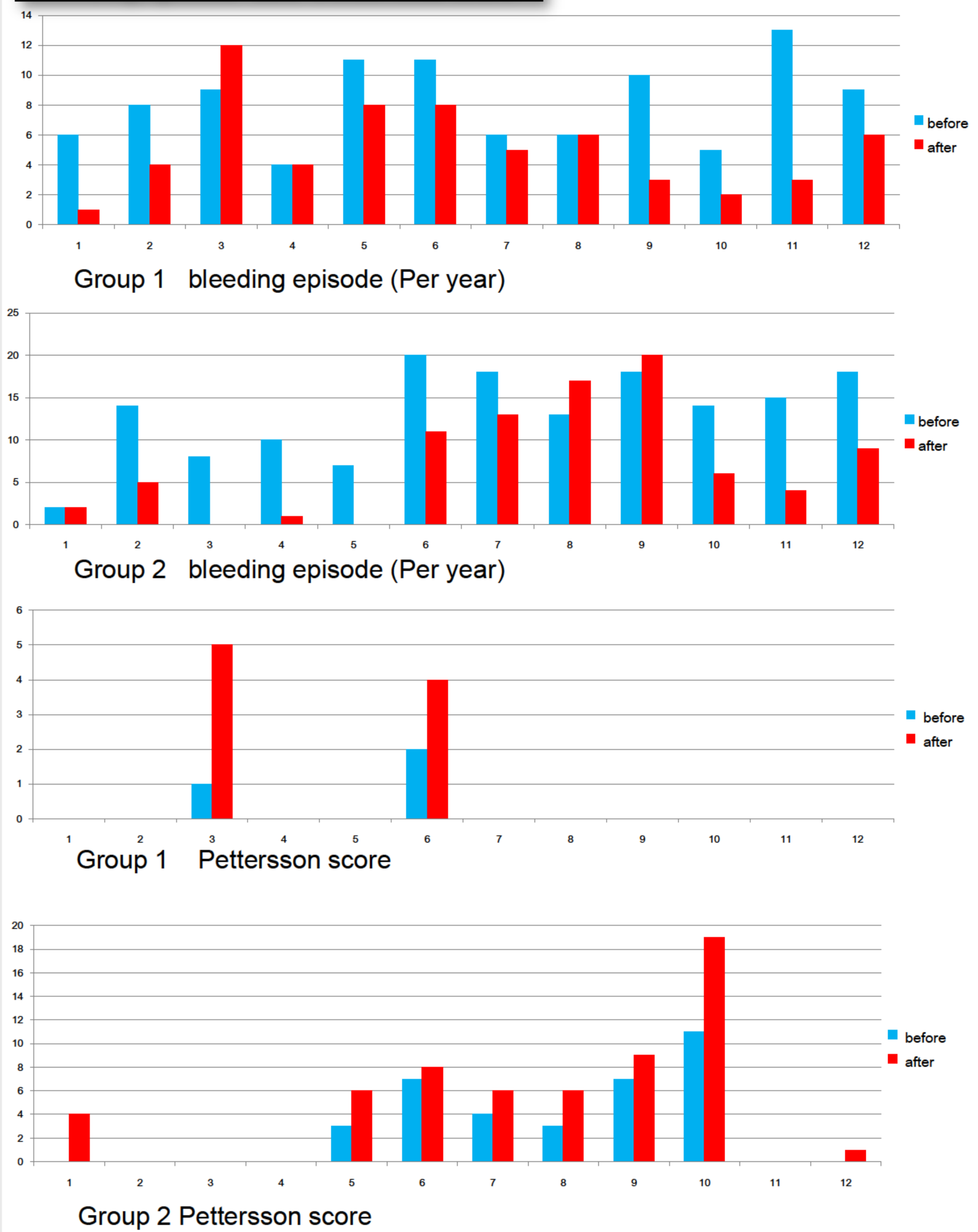
patient number	age 2011 (years)	onset of prophylaxis (years of age)	Prophylaxis duration (years)	bleeds before prophylaxis (number/years)	bleeds under	PS score before (2005)	PS score under (2011)	target joints before(2005)	target joints under(2011)
1	M6	1	5	6/1	4/5	0	0	0	0
2	M6	1	5	8/1	19/5	0	0	0	0
3	M7	2	5	17/2	61/5	1	5	0	1
4	M7	1	6	4/1	26/6	0	0	0	0
5	M8	3	5	32/3	39/5	0	0	0	0
6	M8	2	6	22/2	48/6	2	4	0	1
7	M9	3	6	17/3	27/6	0	0	0	0
8	M9	3	6	19/3	37/6	0	0	0	0
9	M10	5	5	51/5	17/5	0	0	0	0
10	M11	5	6	23/5	10/6	0	0	0	0
11	M11	5	6	67/5	15/6	0	0	0	0
12	M12	6	6	53/6	34/6	0	0	0	0
average	8.6	3	5.5	8.1	5	0.25	0.75	0	0.16
median	8.5	3	6	8.2	4.4	0	0	0	0
range	6-12	1-6	5-6	4-13	1-12	0-2	0-5	0	0-1

### Group 2 (late prophylaxis)

patient number	age 2011 (years)	onset of Prophylaxis (years of age)	Prophylaxis duration (years)	bleeds before prophylaxis (number/years)	bleeds under	PS score before (2005)	PS score under (2011)	target joints before(2005)	target joints under(2011)
1	M13	7	6	17/7	14/6	0	4	0	1
2	M14	8	6	108/8	29/6	0	0	0	0
3	M15	9	6	70/9	0/6	0	0	0	0
4	M15	9	6	87/9	4/6	0	0	0	0
5	M16	10	6	69/10	0/6	3	6	0	1
6	M16	10	6	201/10	65/6	7	8	1	1
7	M16	10	6	184/10	81/6	4	6	0	1
8	M17	11	6	139/11	103/6	3	6	0	1
9	M18	12	6	210/12	119/6	7	9	0	1
10	M18	12	6	170/12	38/6	11	19	2	3
11	M18	12	6	175/12	22/6	0	0	0	0
12	M18	12	6	215/12	54/6	0	1	0	0
Average	16.1	10.1	6	13	7	2.9	4.9	0.25	0.75
median	16	10	6	14	6	1.5	5	0	1
range	13-18	7-12	6	2-20	0-20	0-11	0-19	0-2	0-3

There was a significant correlation between the number of joint bleedings before the start of prophylaxis and the radiological outcome in both groups, while the number of bleedings during the prophylactic treatment was not correlated well with the severity of arthropathy.

## Bleeding episode and Pettersson score

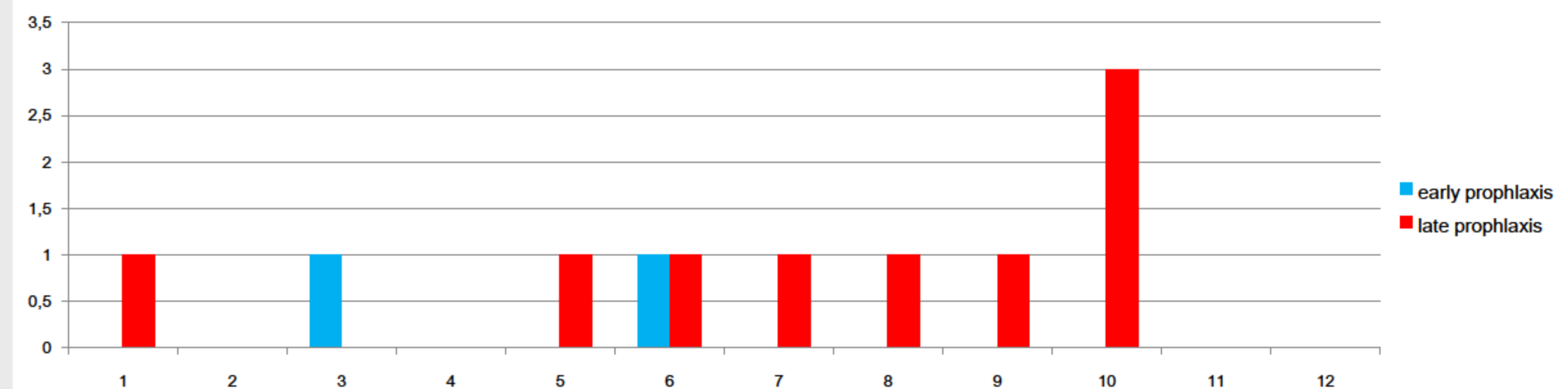


## Arthropathy and Target joint



Late prophylaxis (Ankle AP)

Late prophylaxis (Ankle Lat)



## Conclusions

The number of joint bleedings before the start of prophylaxis influenced the progression of arthropathy even in patients with early prophylaxis. The prophylactic treatment in severe hemophilia should be started early before repeated joint bleeding.

