

Efficacy and safety of sodium hyaluronate in the treatment of osteoarthritis of the carpometacarpal joint of the thumb *versus* corticosteroid

Poster no. P144



P Brühlmann, D Frey, B Salzman, A Koch & BA Michel

Department of Rheumatology and Institute of Physical Medicine, University Hospital, Zurich, Switzerland.

Objective

To compare the efficacy and safety of one intra-articular injection of sodium hyaluronate (HA) or triamcinolone acetone (TA) in patients with osteoarthritis (OA) of the carpometacarpal (CM) joint of the thumb.

Methods

- Single-centre, randomised, masked-observer, controlled study
- Right-handed patients, with symptomatic OA of the CM joint of the right thumb
- Single intra-articular injection of:
 - HA 10 mg/1 ml (Ostenil[®]mini, TRB Chemedica AG, Germany) or
 - TA 10 mg/1 ml (Kenacort[®] A 10, Bristol-Myers Squibb, USA)
- Ultrasound-guided injection
- Study duration of 6 months with assessments at days 0, 7, 28, 84 and 168
- Primary endpoints: pain on visual analog scale (VAS)
 - overall pain
 - pain on rotatory movement
 - pain on joint shifting
- Secondary endpoints:
 - pain on tip, key and palmar pinch (VAS)
 - Dreiser Algofunctional Index (0-30 points)
 - global judgement of efficacy by the patient and the investigator

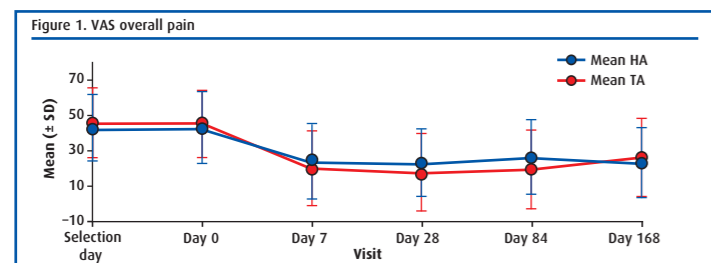
Results

A total of 69 patients (HA = 34, TA = 35) were analysed. The results are shown in Tables 1-7 and Figures 1-7.

		HA (n = 34)	TA (n = 35)	p-value
Gender, n (%)	Female	27 (79.4%)	26 (74.3%)	<0.62
	Male	7 (20.6%)	9 (25.7%)	
Age (years)	Mean	64 ± 7.2	61 ± 9.0	<0.16
	Min-max	46-83	41-84	
Kellgren-Lawrence, n (%)	Grade 1	9 (26.5%)	5 (14.7%)	<0.87
	Grade 2	8 (23.5%)	6 (17.6%)	
	Grade 3	7 (20.6%)	8 (23.5%)	
	Grade 4	6 (17.6%)	7 (20.6%)	
	Unknown	4 (11.8%)	9 (26.5%)	

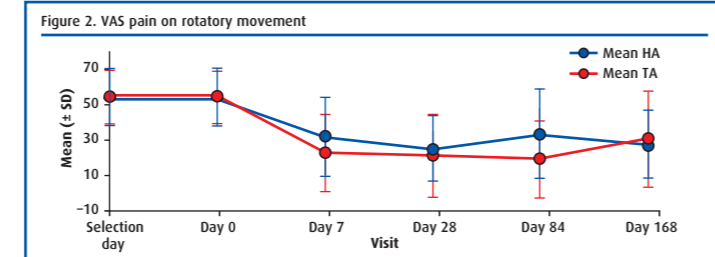
Overall pain of the thumb

The mean overall pain values decreased significantly in the HA group ($p < 0.001$) and in the TA group ($p < 0.01$) compared with baseline.



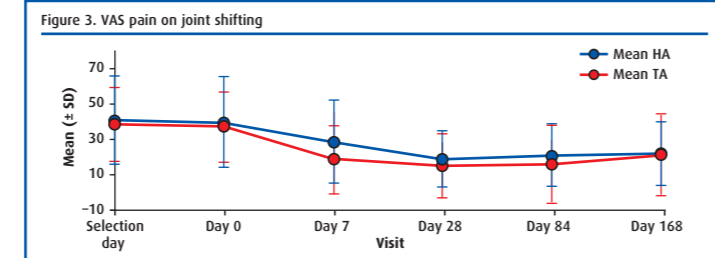
	Mean (±SD) overall pain		p-value
	HA	TA	
Day 0	42.7 ± 20.5	45.2 ± 19.2	<0.55
Day 7	23.3 ± 21.5	20.1 ± 21.2	<0.62
Day 28	22.6 ± 19.1	17.6 ± 21.9	<0.76
Day 84	26.2 ± 21.1	19.6 ± 22.4	<0.09
Day 168	22.9 ± 19.8	26.2 ± 22.3	<0.76

Pain on rotatory movement



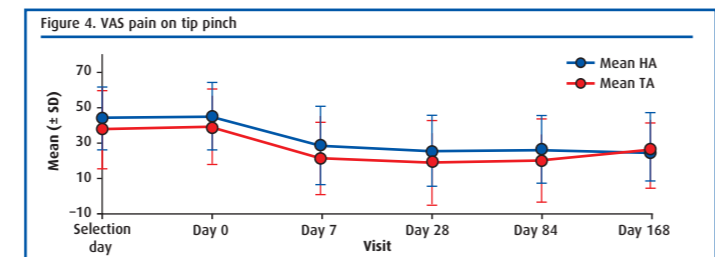
	Mean (±SD) pain on rotatory movement		p-value
	HA	TA	
Day 0	55.4 ± 16.7	55.5 ± 15.2	<0.87
Day 7	32.0 ± 22.9	23.4 ± 22.2	<0.07
Day 28	25.5 ± 18.8	21.9 ± 23.9	<0.13
Day 84	34.1 ± 25.6	19.6 ± 22.3	<0.01
Day 168	28.3 ± 19.4	31.6 ± 27.8	<0.83

Pain on joint shifting



	Mean (±SD) pain on joint shifting		p-value
	HA	TA	
Day 0	39.7 ± 25.7	37.3 ± 20.1	<0.67
Day 7	28.8 ± 23.7	18.8 ± 19.4	<0.05
Day 28	18.8 ± 16.0	15.2 ± 18.3	<0.16
Day 84	20.9 ± 17.7	16.1 ± 22.3	<0.10
Day 168	21.6 ± 17.8	21.6 ± 23.3	<0.61

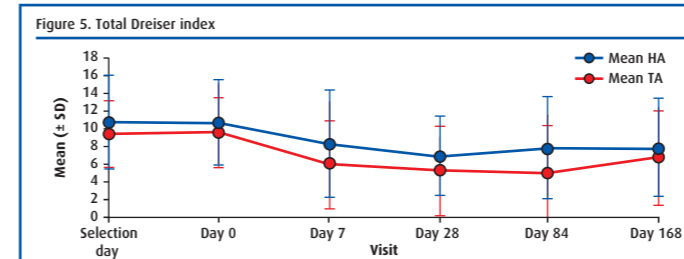
Pain on tip pinch, key pinch, palmar pinch



Pain on tip pinch, key pinch, palmar pinch (continued)

	Mean (±SD) pain on tip pinch		p-value
	HA	TA	
Day 0	45.1 ± 19.3	39.7 ± 21.6	<0.34
Day 7	28.5 ± 22.0	21.5 ± 20.6	<0.17
Day 28	25.5 ± 20.2	18.9 ± 24.1	<0.054
Day 84	26.4 ± 19.1	20.1 ± 23.7	<0.09
Day 168	25.0 ± 16.5	26.0 ± 21.4	<0.79

Dreiser Algofunctional index

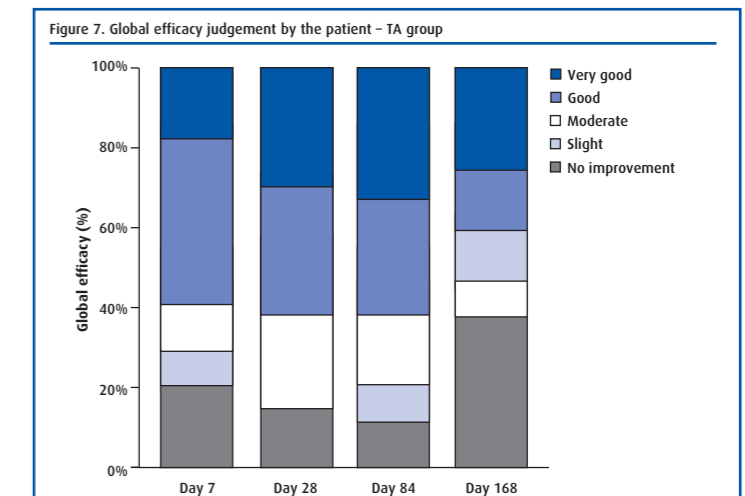
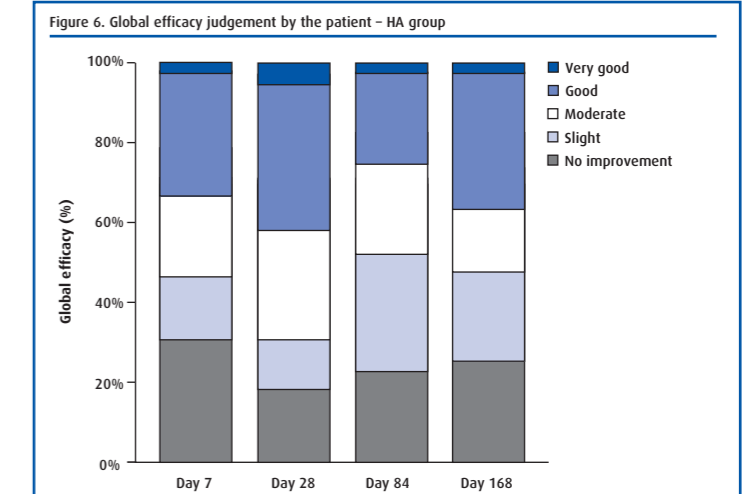


	Mean (±SD) Dreiser Index		p-value
	HA	TA	
Day 0	10.6 ± 4.8	9.5 ± 4.0	<0.51
Day 7	8.2 ± 6.1	5.9 ± 5.0	<0.12
Day 28	6.8 ± 4.5	5.2 ± 5.1	<0.09
Day 84	7.7 ± 5.7	5.0 ± 5.4	<0.04
Day 168	7.8 ± 5.5	6.8 ± 5.3	<0.52

Global judgement of efficacy by the patient

		Global efficacy judgement by the patient (%)		p-value
		HA	TA	
Day 7	Very good	3.0	17.6	<0.20
	Good	30.3	41.2	
	Moderate	21.2	11.8	
	Slight	15.2	8.8	
	No improvement	30.3	20.6	
Day 28	Very good	6.1	29.4	<0.05
	Good	36.3	32.4	
	Moderate	27.3	23.5	
	Slight	12.1	0	
	No improvement	18.2	14.7	
Day 84	Very good	3.2	32.4	<0.02
	Good	22.6	29.4	
	Moderate	22.6	17.6	
	Slight	29.0	8.8	
	No improvement	22.6	11.8	
Day 168	Very good	3.1	25.0	<0.04
	Good	34.4	15.6	
	Moderate	15.6	12.5	
	Slight	21.9	9.4	
	No improvement	25.0	37.5	

Global judgement of efficacy by the patient (continued)



Similar results were found for the global judgement of efficacy assessed by the masked observer.

Safety

Two patients dropped out of the study because of adverse events in the HA group (acute low back pain and tendinopathy of the right thumb).

Conclusions

- A single injection of HA led to significant improvement in pain and function and was as effective as TA for treating rhizarthritis.
- A single HA or TA injection may produce a sustained improvement over 6 months.
- These results confirm the data of a previous study¹ showing the efficacy of HA injections.

Reference

1 Talke M. Intra-artikuläre Hyaluronsäure bei der Arthrose des Daumensattelgelenks. Aktuelle Rheumatologie 2002; 27:101-6.