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# A small case series of dogs suffering from canine hip dysplasia supplemented with a joint formula consisting of fish oil, glucosamine HCl, chondroitin sulfate and MSM (Nutrolin Nivel®)

Jenna Seppälä BVMS & Anna Hielm-Björkman DVM, PhD
The Faculty of Veterinary Medicine, Department of Equine and Small Animal Medicine, University of Helsinki, Finland

## Introduction

Canine Hip Dysplasia (CHD) is a disease that leads to osteoarthritis (OA) and chronic pain. Nutrolin Nivel (Olini Oy, Espoo, Finland) was tested for this patient group in a non-blinded case series. This product is a joint formula with fluid fish oil as the source of omega-3 fatty acids (280 mg/ml) and tablets consisting of glucosamine HCl, chondroitin sulfate and MSM (330 mg, 220 mg and 110 mg per tablet, respectively).

## Materials and methods

Twelve dogs suffering from CHD that had been in another study involving acupuncture as a treatment, opted to continue in this pilot group. As half of these dogs had been on treatment before and the other half on sham treatment, it was decided that the best, un-effected baseline evaluation to use, would be the same that was used in the first study. All dogs were then given the same dry dog food and the test product for 3 months. At the end of treatment they were re-evaluated using the same variables as at the baseline: the validated Helsinki chronic pain index (HCPI)[1] and two visual analogue scales (VAS) on locomotion and quality of life (QOL-VAS). All variables were normally distributed. The change from baseline to end of 3 months were analyzed using the paired-samples t-test. Significance was set at p=0.050.

## Results

Decrease in chronic pain from baseline to the end of the 3 month supplementation period was suggested by a significant decrease in the HCPI (p=0.048). The decreases in mobility and quality of life VASs, were not significant.

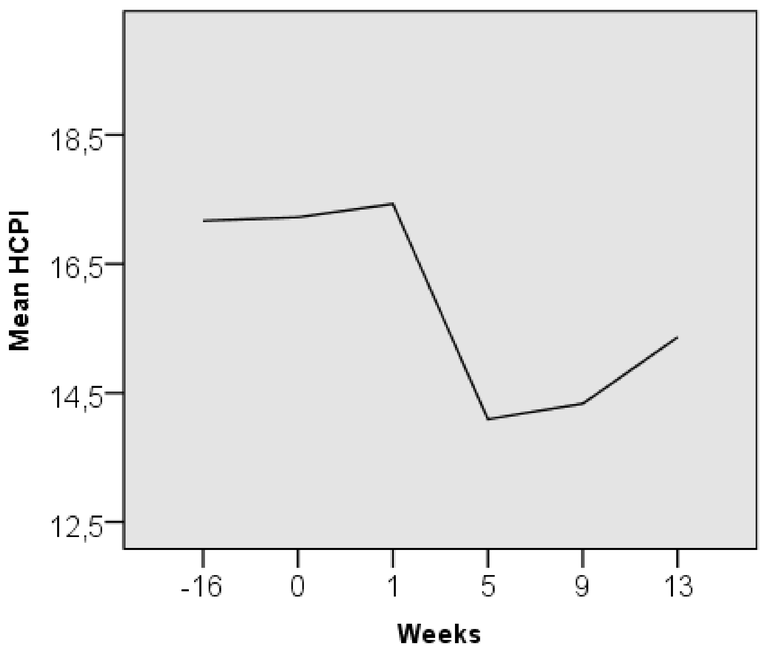


*Figure 1. Mean Helsinki Chronic Pain Index-values of dogs that had received acupuncture or placebo therapy in the preceding study (weeks -16 to -13) and later received the Nutrolin® food supplement (weeks 0 to 13). Values of HCPI range from 0 to 44 (Values under 6 indicate no chronic pain, 7-11 are a gray zone, and points over 12 are indicative of chronic pain[1]).*

| Variable | Baseline | | End | | baseline-end |
|---|---|---|---|---|---|
| | N | mean (±SD) | N | mean (±SD) | P-value |
| **HCPI** | 11 | 17,82 (±2,75) | 11 | 15,36 (±4,84) | 0,048 |
| **Locomotion-VAS** | 11 | 5,88 (±1,39) | 11 | 5,34 (±1,63) | 0,302 |
| **QOL-VAS** | 11 | 4,95 (±1,81) | 11 | 4,69 (±1,89) | 0,566 |

*Table 1. Outcome measures at week -16 and at the end of trial. The P-values show significance between the two assessment points.*

## Conclusions and clinical relevance

*This is the first report from a canine study involving a joint formula consisting of fish oil, glucosamine HCl, chondroitin sulfate, and MSM. Although only one of the three variables examined showed a significant change, this was the only validated variable and therefore suggests that there is a positive effect. A randomized, blinded study should now be planned to verify these results.*

### References

1) Hielm-Bjorkman AK, Rita H, Tulamo RM. Psychometric testing of the Helsinki chronic pain index by completion of a questionnaire in Finnish by owners of dogs with chronic signs of pain caused by osteoarthritis. Am J Vet Res. 2009;70(6):727-34.

Pictures:
Norwich Terrier – © Jenna Seppälä
Fish Oil + tablets – Olini Oy

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- *Olini Oy* for the donation of the supplements used in the study
- However, the sponsor hasn't had any influence on the reporting of data.