Bioiberica

Mobilee®

Hyaluronic acid matrix ingredient for joint health

Mobilee®is a hyaluronic acid matrix ingredient with a high concentration hyaluronic acid (HA), mucopolysaccharides and collagen. Backed by multiple scientific studies, the synergistic effect of its three naturally-occurring components is shown to have anti-inflammatory and anabolic properties, as well as stimulate HA secretion in synovial fluid to support the joint function.

According to pharmacological model studies, **Mobilee**® multiplies by 10 the endogenous synthesis of hyaluronic acid, and is more powerful than fermentation HA, thanks to the combined action of its components.

RECOMMENDED CLAIMS

- Induces synthesis of endogenous hyaluronic acid in the synovial membrane.
- Regulates metabolism of hyaluronic acid in the synovial membrane.
- Reduces synovial effusion, a risk factor for osteoarthritis.
- Reduces joint discomfort and supports joint function.

PRODUCT DOSE in pet food

For nutritional supplements, consult on a case-by-case basis.

Dog: 48 ppm
Cat: 60 ppm

Find out more info about Bioiberica's Pet Health

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Mobilee®

TRIAL

Serra Aguado, C.I.; Ramos-Pla, J.J.; Soler, C.; Segarra, S.; Moratalla, V.; Redondo, J.I. Effects of Oral Hyaluronic Acid Administration in Dogs Following Tibial Tuberosity Advancement Surgery for Cranial Cruciate Ligament Injury. Animals 2021, 11, 1264.

PURPOSE

The hypothesis of this study was that oral administration of a high molecular weight HA in dogs with anterior cruciate ligament (ACL) injury increases the concentration of HA in synovial fluid. A decrease in synovial fluid concentrations of pro-inflammatory biomarkers was also expected.

MATERIALS & METHODS

A multicentric, double-blinded, placebo-controlled clinical study was carried out. Fifty-five dogs with ACL injury were included in the study. After undergoing Tibial they were randomly assigned to receive a placebo (group A; n=25) or 1.3-2.6 mg/kg HA (group B; n=30) orally for 10 weeks.

RESULTS

After 10 weeks of treatment, synovial fluid HA concentrations were decreased in group A (1650 µg/ml vs 1810 µg/ml) and significantly increased in group B (1780 µg/ml vs 1670 µg/ml; p<0.05) (Table 3).

Paraoxonase-1 (PON-1) is an antioxidant enzyme wich has been found to be increased in the synovial fluid dogs with osteoarthritis. In the present study, synovial fluid concentrations of PON-1 decreased over time in the AH group. This finding suggests an anti-inflammatory effect of oral high molecular weight HA in acute stages of osteoarthritis.

Table 3. Synovial fluid biomarker concentrations in different groups.

Biomarker		*n*	Group PCB Median (Min-Max)	*n*	Group HA Median (Min-Max)
HA (µg/ml)	V_1	23	1810 (952-2019	30	1670 (301-2230)[a]
	V_4	21	1650 (1240-2030)	19	1780 (993-273)[a]
PON-1 (IU/ml)	V_1	19	0.91 (0.14-3.10)	23	0.67 (0.14-164)[b]
	V_4	16	0.14 (0.12-1.11)	19	0.14 (0.13-1.87)[b]
NO (µmol/l)	V_1	17	8.47 (3.08-150)	19	8.30 (1.96-81.80)
	V_4	17	6.26 (1.80-78.70)	12	5.38 (2.61-97-50)
HAP (g/l)	V_1	22	0.15 (0.01-1.29)	22	0.03 (0.01-1.66)
	V_4	21	0.02 (0.01-1.53)	21	0.02 (0.01-1.50)

HA: Hyaluronic acid; HAP: haptoglobin; NO: nitric oxide; PON-1: paraoxonase-1. V_1: Day of surgery, V_4: Check-up 10 weeks after surgery. n: sample size for every variable at every group and visit. Same super index letter means significant differences with $p<0.05$. [a]HA concentration differences in GROUP HA between V_1 and V_4 [b]PON-1 concentration differences in GROUP HA between V_1 and V_4.

DISCUSSION/CONCLUSION

Oral administration of high molecular weight HA in dogs with osteoarthritis secondary to an ACL injury leads to significant improvements in HA and PON-1 biomarkers measured in the synovial fluid. These findings further support the bioavailability of HA administered orally and its distribution in joint tissues. In addition, the results of this trial also point towards a possible anti-inflammatory effect of oral administration of HA due to decreased synovial concentration of PON-1.

OTHER STUDIES

Martinez-Puig D, Carmona JU, Arguelles D, Deulofeu R, Ubia A, Prades M. Oral hyaluronic acid administration improves osteochondrosis clinical symptoms and slightly increases intra-articular concentration of hyaluronic acid in a horse model: a pilot survey. Osteoarthritis and Cartilage 2007;15(S3):C62-C63.

Bioiberica

Corporate office
Av. Països Catalans 34, planta 2ª
08950 Esplugues de Llobregat
(Barcelona- Spain)
Tel: +34 93 490 49 08

Manufacturing site
C/ Antic Camí de Tordera, 109-119
08389 Palafolls (Barcelona)
Tel: +34 93 765 03 90 -
Fax: +34 93 765 01 02

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