

Oral Use of a Hyaluronic acid, Glucosamine and Chondroitin Combination following Arthroscopic Surgery in the Horse

Scott W. Pierce, DVM
PO Box 11721
Lexington, KY 40577

Objective

To evaluate a combination of Hyaluronic acid, Glucosamine and Chondroitin sulfate¹ administered orally in horses following arthroscopic surgery. In particular, to compare the use of the combination to a placebo and its effect on synovial effusion following surgery. Horses were evaluated to determine if the combination was useful in accelerating the recovery time following invasive joint surgery in the Thoroughbred yearling.

Materials and Methods

Fourteen Thoroughbred yearlings were chosen for the study. Two of the yearlings has lesions in both hocks therefore arthroscopic surgery was performed on 16 joints, eight in the treated group and eight in the non-treated group. The tarsal joint was chosen for the study because of the relative ease of evaluating joint effusion. All joints were found to have OCD fragments, most of which were off the distal intermediate ridge of the tibia. The yearlings were randomly chosen and given either a daily placebo paste or paste containing 20mg of Hyaluronic acid, 5000mg of Glucosamine sulfate, and 450mg of Chondroitin sulfate for a total of 40 days post-operatively. Horses were evaluated every 10 days and a score was given by an independent examiner to detail the amount of post-operative effusion. The following scale was used to grade synovial effusion: 0-no effusion, 1-barley palpable, 2-palpable (no plantar effusion), 3-golf ball and plantar effusion, 4-tennis ball and plantar effusion, 5- > tennis ball and plantar effusion. Half grades were also allowed.

Results

Results are summarized in tables 1 and 2 below. Table 1 is the treated horses and table 2 is the non-treated placebo group. There is no significant difference in the effusion scores in Days 10 and 20 of both the treated and non-treated groups. By day 30 post-operatively, there was a significant difference in the two groups. The HA/GS/CS treated group has an average score of 1.75 while the placebo group averaged 2.12. Then by Day 40 post-operatively, the effusion score in the treated group was 0.81 while the score in the non-treated group was 1.44. None of the horses exhibited any complications from surgery and none of the horses exhibited any signs of digestive upsets from the oral products.

¹ Chondrogen EQ, Kinetic Technologies, Lexington, KY 40511

Table 1**Treated Horses**

Horse	Day 10	Day 20	Day 30	Day 40
#1	2.5	3.0	2.5	1.0
#2	1.5	1.5	1.0	0.5
#3	2.5	2.0	1.0	0.0
#4	1.5	1.5	1.0	0.0
#5L	3.0	2.5	2.5	1.5
#5R	3.5	2.5	2.0	1.5
#6	3.0	3.0	2.0	1.0
#7	3.0	2.5	2.0	1.0
Total	20.5	18.5	14.0	6.5
Average	2.56	2.31	1.75	0.81

Table 2**Non-Treated Horses**

Horse	Day 10	Day 20	Day 30	Day 40
#8	2.0	2.0	1.0	0.5
#9	2.5	2.5	2.0	1.0
#10	2.0	2.5	2.0	1.0
#11	2.5	2.5	2.0	1.0
#12	3.0	3.0	2.5	2.0
#13	2.5	2.5	2.5	2.0
#14L	3.0	3.0	2.5	2.0
#14R	2.5	2.5	2.5	2.0
Total	20.0	20.5	17.0	11.5
Average	2.50	2.56	2.12	1.44

Discussion

In this double blind placebo controlled study, the yearlings given an orally administered combination of Hyaluronic acid, Glucosamine sulfate and Chondroitin sulfate has improved effusion scores following arthroscopic surgery. This study shows this combination is effective in reducing the post-operative synovitis. This oral combination appears to

accelerate recovery from arthroscopic surgery and is a very good alternative for treatment of synovial inflammation and pain in the horse. This study tends to support previous findings by researchers in Europe in both horses and people.