EARLY EFFICACY OF A NOVEL VISCOSUPPLEMENT COMBINING HYALURONIC ACID AND SORBITOL, ANTI-OX-VS (SYNOLIS™) IN PATIENTS WITH KNEE OSTEOARTHRITIS

Thierry Conrozier 1, Carine Masson 2, Eric Vignon 3, Yves Mornand 1, Ophélie Orset 1
1Rheumatology, Lyon-Sud University Hospital, Pierre-Bénite, France; 2Anteis SA, Genève, Switzerland; 3Lyon-Presqu’île Rheumatology Centre, Lyon, France

ABSTRACT

Title: EARLY EFFICACY AND SAFETY OF A NOVEL VISCOSUPPLEMENT COMBINING SODIUM HYALURONATE AND SORBITOL (ANTI-OX-VS) IN PATIENTS WITH SYMPTOMATIC KNEE OSTEOARTHRITIS

Objective(s): ANTI-OX-VS is an innovative viscosupplement (VS) made of a high concentration (20 mg/ml) of a > 2MDa Sodium Hyaluronate (NaHA) from non mammal origin, combined with a high concentration of an oxygen free radical (OFR) scavenger, the Sorbitol (40mg/ml). The high ability of Sorbitol to scavenge and neutralize oxygen free radicals (OFR) has already been proven to delay the degradation of the gel. We hypothesis the antioxidant effect of a Sorbitol may also play a role to reduce the time to onset of pain.

Material and Methods: 26 patients with symptomatic KOA were included in a 13 weeks prospective open label study. Treatment regimen consisted of 3 IA injections of 2 ml of ANTI-OX-VS on week apart. Pain and function improvement (WOMAC scale, walking pain (WP), patient and physician global assessment (PGA) using a 5 points Likert scale were obtained at W1, W2 and W13. Between W2 and W14 patients were asked to complete a weekly self evaluation questionnaire (WP, WOMAC A between W0 and W1, W2, W8, W13). The treatment efficiency was evaluated at W13.

Results: Mean age was 71±10, BMI 27.9±3.9. KL grades 1,2,3,4 in 6, 6, 12 cases respectively. At W0 mean WP was 2.1 and WOMAC A 8.3. At W1 mean WP was -2.1, -2.0, -2.0, -3.9. At W13, 82% of the patients considered ANTI –OX-VS treatment is moderately to extremely effective. There was no advice related adverse event.

Conclusion(s): (i) This exploratory study demonstrates a quick and strong pain relief occurring immediately after the first injection of ANTI-OX-VS, followed by a continuous improvement until the end of follow-up (W13).

OBJECTIVES

To evaluate the short term pain-relief effect of ANTI-OX-VS in patients suffering from knee osteoarthritis.

Study design
Prospective, open-label 13 week study 26 outpatients fulfilling the American College of Rheumatology clinical criteria for the diagnosis knee OA.

Inclusion criteria
• Patients suffering from symptomatic knee OA and considered by the physician as requiring viscosupplementation.
• Age > 55 years
• Kellgren-Lawrence grade (KL) II to IV on standing AP view, Lyon schuss view, profile, skyline view of the patella.

Main exclusion criteria
• Flare at any joint.
• VS of any knee within 6 months prior to the initiation of treatment.
• Intra-articular steroid injection of any knee within 3 months prior to the initiation of treatment.

Treatment procedure
Three 2mL intra-articular injections of ANTI-OX-VS (Synolis™) were performed 1 week apart by an experienced rheumatologist.

Authorized treatments
• Paracetamol < 4 g/jour
• NSAIDs if taken before inclusion
• SYSDAOAs (chondroitin sulfate, diacerein, avocado/soja unsaponifiables, glucosamin, diacerein) if taken at stable doses at least 3 months before inclusion and during the whole follow-up period.

Viscosupplementation by intra-articular injections of hyaluronic acid (HA) reduces pain and improves function in patients with knee osteoarthritis (KOA) but the improvement is delayed and occurs usually 6 to 8 weeks after the injections.

Evaluation
At W0, W1, W2 and W13:
• WOMAC A, WOMAC aggregate, walking pain (WP), patient and physician global assessment (PGA) using a Likert 5 points scale.
• Percentage of improvement since the first injection were obtained (figure 4).

Treatment satisfaction was also evaluated at the end of the follow up period (Likert 4 points scale).

Primary criteria: Variation of WP between first injection and W3.

RESULTS

Mean age 71 ± 10
Mean BMI 27.9 ± 3.9
KL (grade /N): II/6; III/8; IV/12
At baseline:
• Mean WP = 2.1
• Mean WOMAC A = 8.3
At week 1:
• Mean WP = 1.6 (p<0.0003)
• Mean WOMAC A = 6.2 (p<0.0000)
At week 3:
• Mean WP = 1.5 (p<0.0003)
• Mean WOMAC A = 7.5 (p<0.05)
At week 13:
• Mean WP 1.0 (p<0.0001)
• Mean WOMAC A = 4.9 (p<0.0000)
• Variation of WP between baseline and W1, W2, W8 and W13 was respectively -0.5, -0.4, -0.5 and -1.1 (figure 3)
• Variation of WOMAC A between baseline and W1, W2, W8, W13 was respectively -2.1, -2.2 and -3.9. At W13, 82% of the patients considered ANTI-OX-VS moderately to extremely effective.

CONCLUSION
This exploratory study demonstrates a quick and strong pain relief occurring immediately after the first injection of ANTI-OX-VS, followed by a continuous improvement until the end of follow-up (W13).

Improvement was achieved much faster than that usually obtained with other commercial viscosupplements probably because of the presence of a high concentration of sorbitol acting through its antioxidant activity.

These data support the need for a large scale, prospective clinical trial comparing the safety and long term efficacy of Synolis™ to regular viscosupplement.