INTRA-ARTICULAR ULTRASOUND-GUIDED INJECTIONS IN AGONISTIC AND NON-AGONISTIC ATHLETES AFFECTED BY HIP OSTEOARTHRITIS

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Aim of the study

To investigate the eventual efficacy and safety profiles of intra-articular ultrasound-guided hyaluronic acid injections associated with rehabilitation in agonist and non agonist athletes affected by hip osteoarthritis at different levels.

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Methods:

From 2008 to 2011 more than 220 athletes received an intra-articular injection for the condition of osteoarthritis

41 athletes were affected by hip osteoarthritis

Demographic and Clinical features of patients

- 41 athletes (13 F and 28 M)
- Mean age 37,8+-11,5
- Agonist athletes: 20 (4 F and 16 M)
- Non agonist athletes: 21(9 F and 12 M)

Kellgren lawrence grade:

Agonists: 2,1

Non Agonists: 2,41

EVALUATION

- All patients were evaluated by mean of pain VAS and Lequesne index at baseline and after 6 months from US-guided injection
- Kellgren-Lawrence radiological grade was evaluated at baseline
- All adverse events were recorded, both local and systemic, transient or continuous, and the additional need for medication induced by AEs was also recorded

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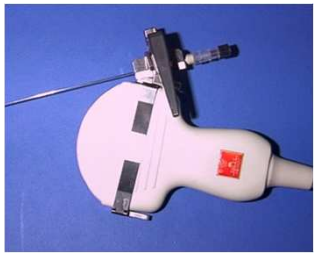
Inclusion criteria

- Athletes, agonists or non agonists, affected by hip osteoarthritis, KL grade 1-3, aged 18 or older, who signed an informed consent regarding injection technique, compound used and eventual AEs
- Kind of sports: running, cyclism, football, martial arts, tennis, squash, basketball, aerobics, volleyball

Injection tecnique

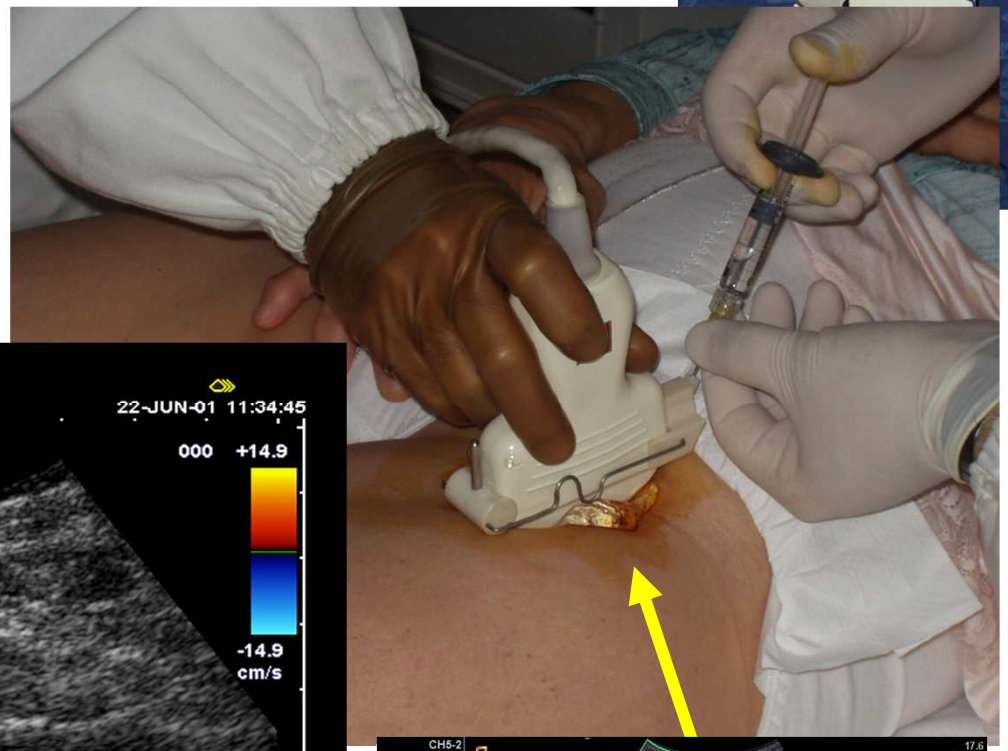
- All injections were performed following Migliore-Tormenta injection technique indications. Ultrasound scanning of hip joint was performed before hip injection.

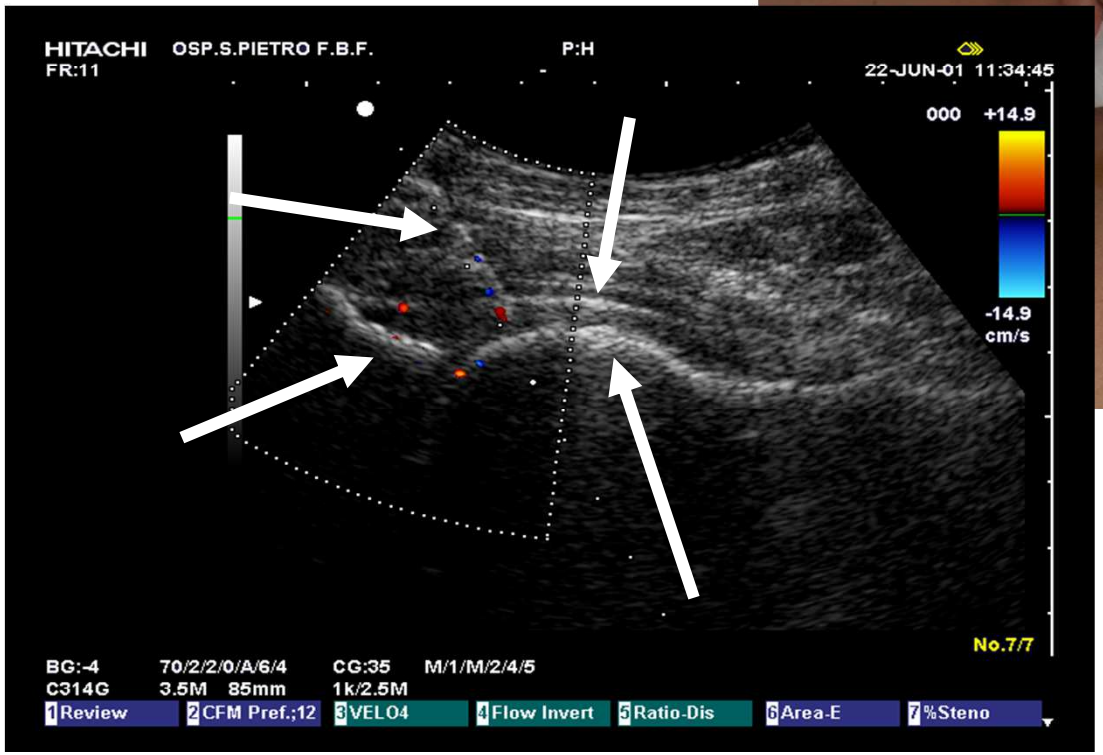


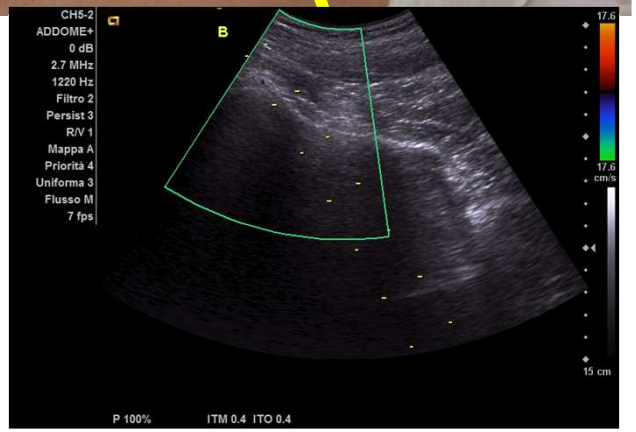
Methods: US technique

- We used a 3.5 - 5 MHz convex MHz linear multifrequence transducer with a sterilized biopsy guide attached and by the use of sterile gel
- All patients were examined in supine position with the hip in slight internal rotation (15 to 20°)
- We scanned the hip joint by means of an anterior parasagittal approach, lateral to the femoral vessels

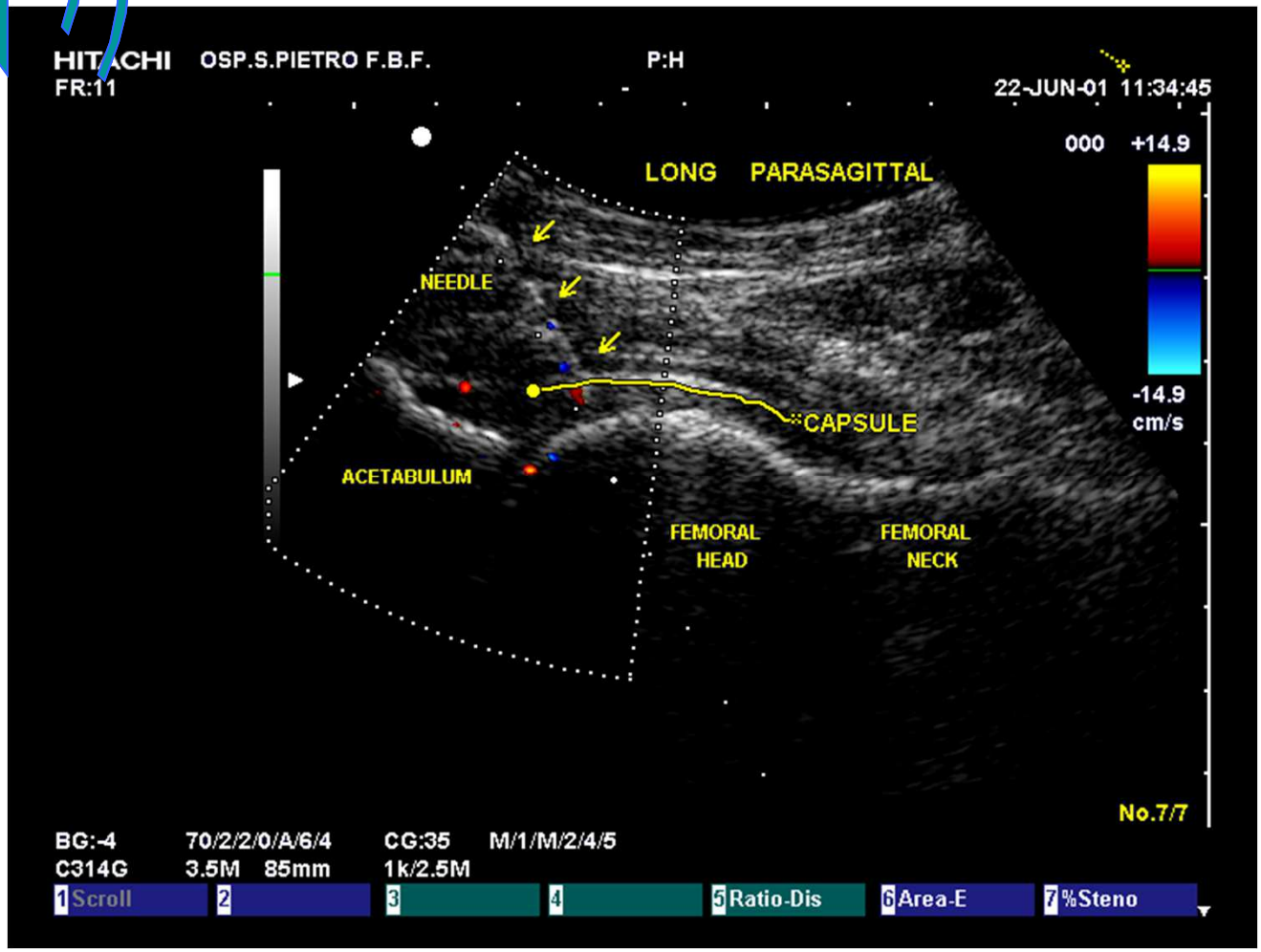
US technique

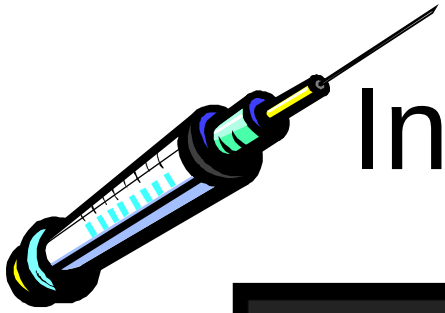




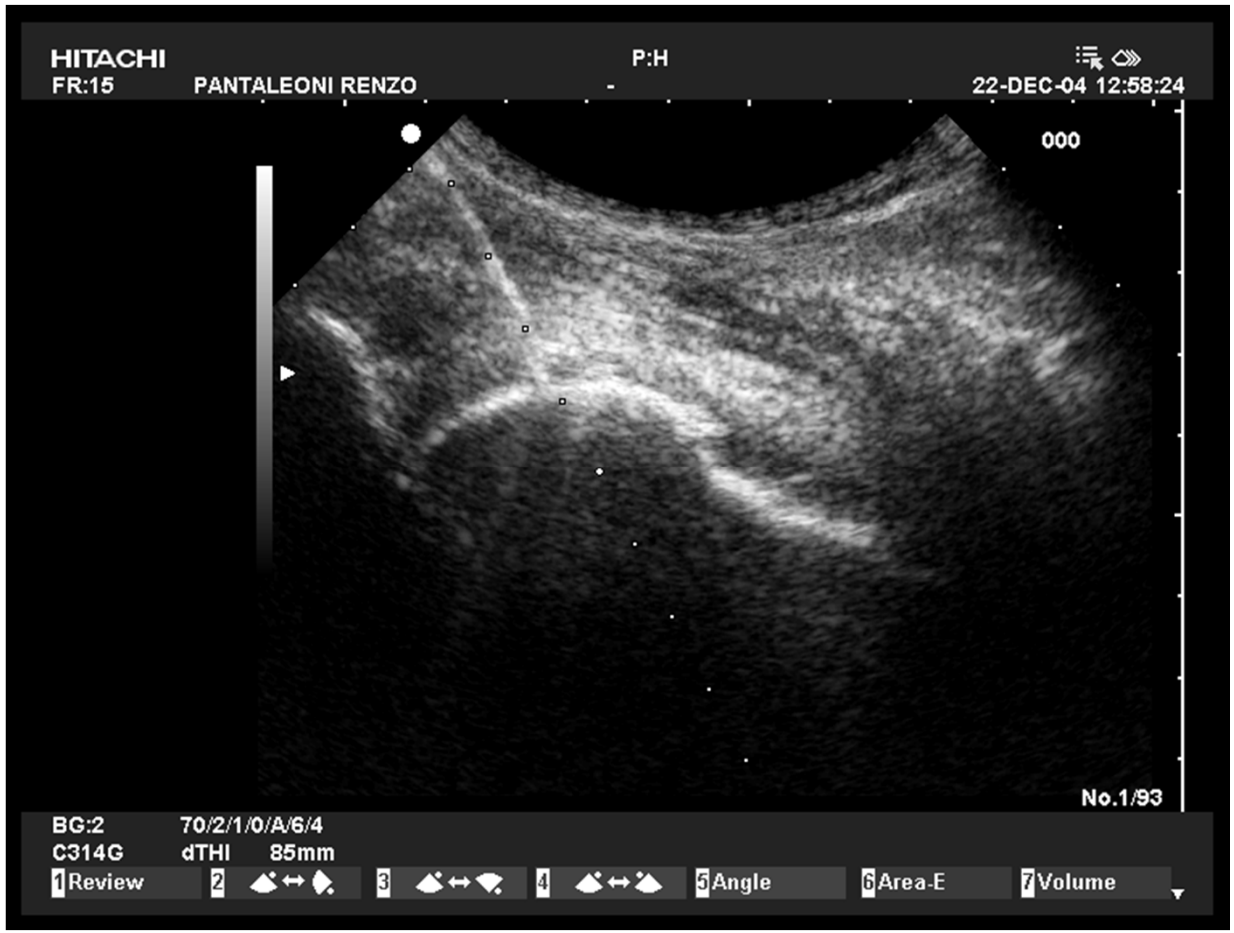


US Technique





Injection technique



Dosing regimen

- Medium-weight hyaluronans were used
- HA 1200-1800KD MW 32-60 mg/4ml
- Volume of 4 ml for each injection
- 1 injection every six months
- All patients also underwent a variable number of rehabilitation sessions

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Kind of rehabilitation

The rehabilitation protocol consisted in a combination of Manual Therapy and Physical Exercises.

The program lasted 6 weeks and each patient was treated one or two times per week.

The objective of the program was to increase mobility, strenght and control of the Hip Joint.

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Exercises

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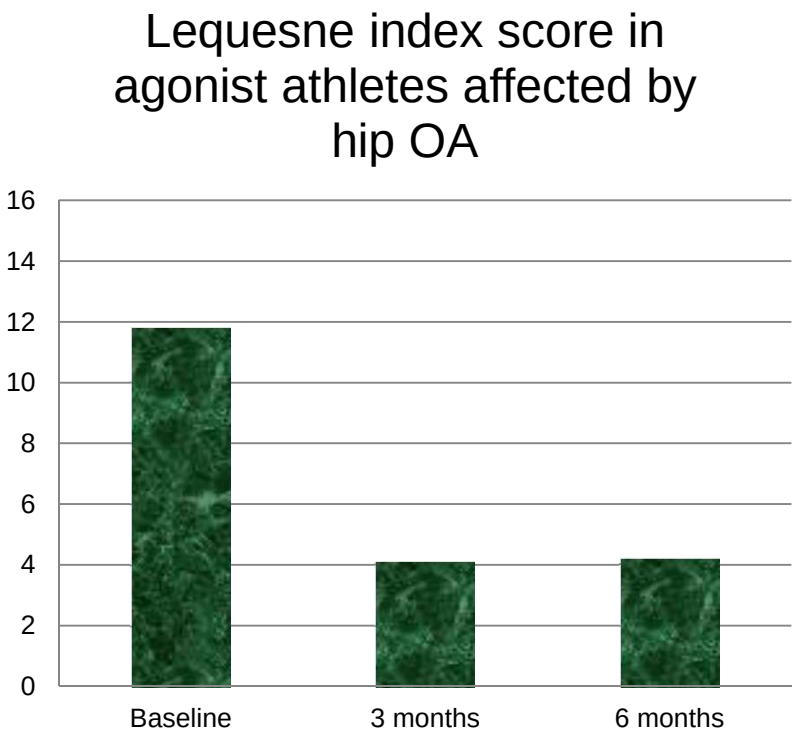
Manual Therapy

Results:

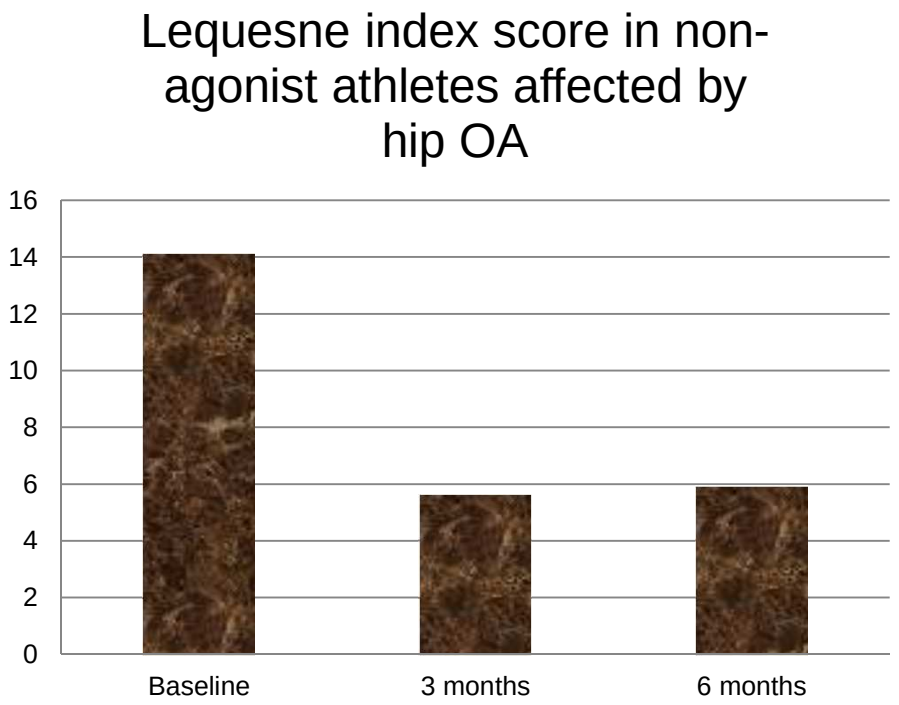
- 41 athletes affected by hip osteoarthritis received a total of 43 injections as two patients presented bilateral hip osteoarthritis
- All patients correctly performed rehabilitation sessions
- Kellgren-Lawrence grading ranged between 1 and 4, with a mean of 2,21
- No systemic adverse events were reported
- Two patients reported a transient local heaviness sensation lasting for 4-12 hours, spontaneously reverted without medications

Lequesne index.

AGONIST ATHLETES



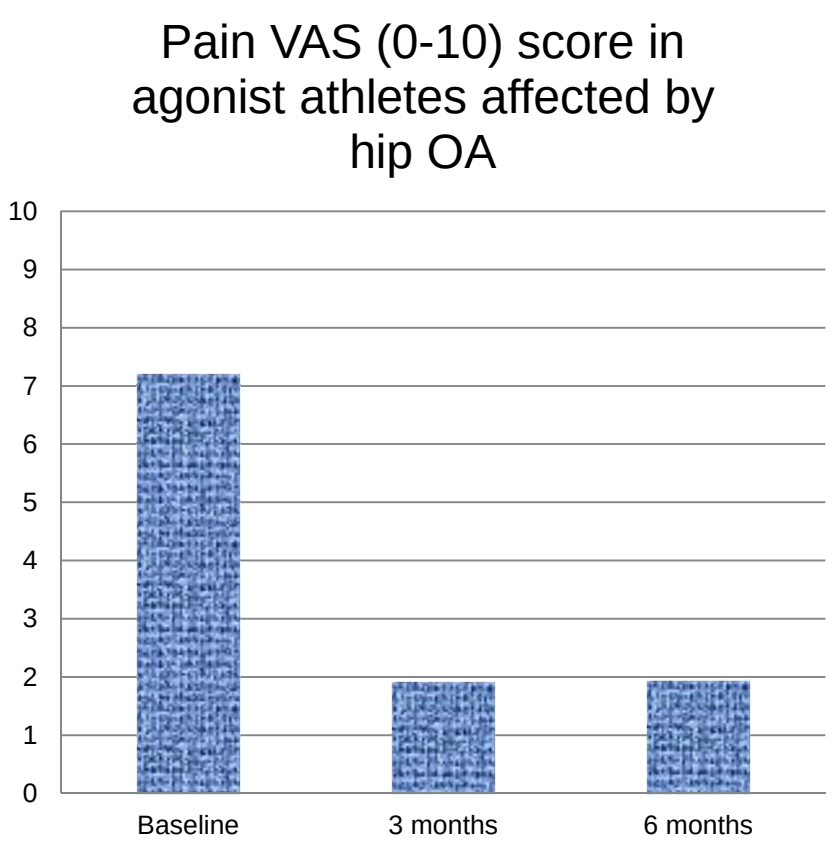
NON AGONIST ATHLETES



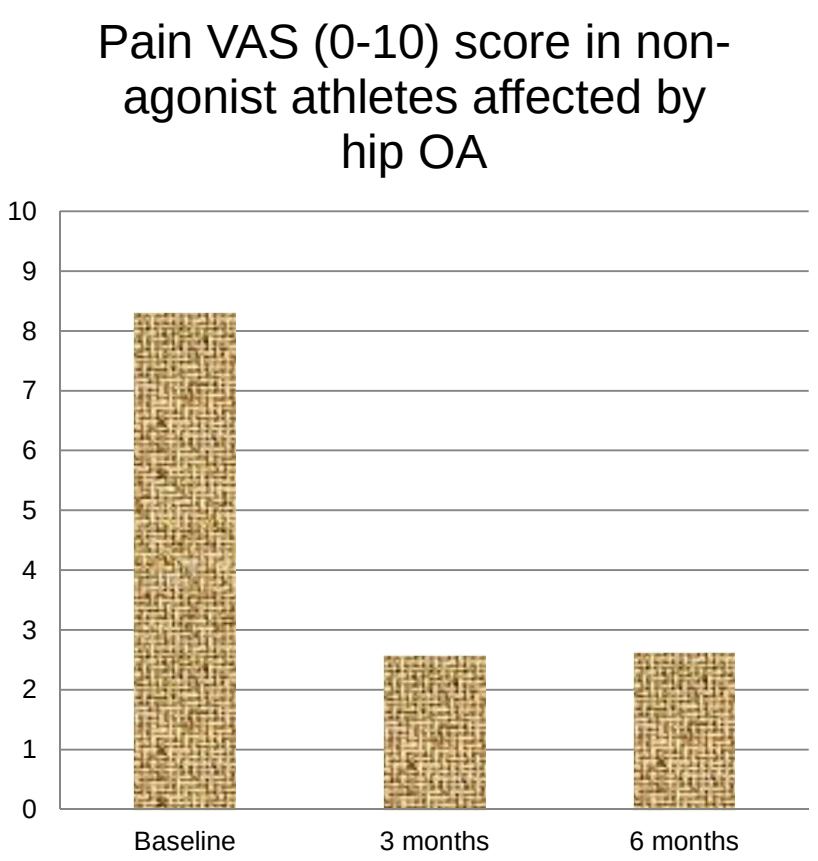
LI values decreased by 75% in agonistic athletes and by 60% in non agonistic athletes

PAIN VAS

AGONIST ATHLETES



NON AGONIST ATHLETES



Pain VAS decreased by 73% in agonistic athletes and by 69% in non agonistic athletes.

Discussion:

- The use of intra-articular hyaluronic acid injections by ultrasound-guidance seems to be in our experience a valid tool for athletes suffering from symptomatic hip osteoarthritis, with good efficacy and safety profiles. Further studies are needed to confirm such data.

THANKYOU FOR YOUR ATTENTION !