BACKGROUND

Knee viscosupplementation yields variable results for osteoarthritis. Orthopaedic societies vary in their recommendations regarding its use. The purpose of this study:

→ To prospectively identify patient and treatment factors that predict a favorable response to intra- articular HA treatment to better guide patient and treatment selection.

METHODS

- Prospective, Observational study
- Enrollment March 2013 to May 2016
- WOMAC/KOOS and VAS scores recorded prior to injection and at each subsequent injection and 3-month follow-up.
- Patients Included: ≥35 years; Kellgren-Lawrence (KL) grade 1 to 3 primary knee OA (TABLE 1).
- Patients Excluded: Previous intra-articular HA injection in the knee, Corticosteroid injection within 3 months, Post-traumatic OA or knee trauma requiring surgery (including ligament or meniscal tears), Knee arthroscopy within the previous year. History of crystalline-induced, septic, or rheumatoid arthritis, Severe non-arthritis or bony pathology, Neurogenic or vascular claudication.

This was a hyaluronic naïve group with primary knee osteoarthritis that had been treated non-operatively.

Treatment response was classified as a success if: (1) Improvement in pain, symptoms, or physical function subscale of ≥ 50% or ≥ 20-point improvement on the VAS OR (2) Improvement ≥ 1 of the 4 KOOS categories of pain, symptoms, function, or global WOMAC score of ≥ 20% or ≥ 10-point improvement on the VAS.

RESULTS

- 102 patients analyzed (FIGURES 1, 2).
- 58 patients (57%) met criteria for treatment success (TABLE 2).
- Patients with grade 1 or 2 OA were 2.2 times more likely to respond to the injections than those with grade 3 OA (p = 0.001).
- Those who responded positively to the first injection of the series were 2.3 times more likely to have a positive response to follow-up, 78% versus 35% (p = 0.001).
- For grade 2 OA alone, patients ≥ 60 were 2 times more likely to respond positively to treatment than patients < 60 (p = 0.009).
- No effect: Initial KOOS and VAS scores, race, sex, BMI, smoking status, and brand of injection.

Patients followed for a mean of 27 months:
- 13 (30%) of the non-responders underwent arthroplasty (Mean = 10 months).
- 7 (12%) of the responders underwent arthroplasty (Mean = 13.4 months).

REFERENCES


Funding: Patient stipends for $25 were provided through a research grant from the Campbell Foundation in total of $1300.