References:

Objectives:
The nitrated form of Coll2-1 and considered as a biomarker of the inflammato-

type II collagen molecule reflecting cartilage degradation (1). Coll2-1NO2 is 

is associated to knee osteoarthritis (OA), focusing on pain, function as well 

as structural features assessed by MRI in various knee compartments and to 

natural progression in knee OA.

Methods: 63 KJD patients were included in several clinical trials, one of which was a randomized controlled trial comparing patients indicated for HTO, but treated with KJD (KJD_{HTO} n=23) vs. patients treated with HTO (n=46). All patients received standardized radiographs before and one and two years after treatment, used to measure osteophyte size. Only patients with measurements at baseline and two-year follow-up were included. As a control group for natural progression, untreated knee OA patients from Cohort Hip & Cohort Knee (CHECK; n=1002) were studied. Only patients who received a TKA during follow-up were included, using their last two measurements before treatment to reflect natural two-year progression (n=44).

After two years, both KJD (n=58) and HTO (n=58) patients showed a significant increase in osteophyte size (+6.2mm±2 (p<0.003 vs. baseline; p=0.015)). Differences were significant at 24 months for both KJD and HTO groups (both p<0.044). In the KJD SF aspiration group (n=17), the Altmann osteophyte score was not different at one year compared to baseline (+0.2 points; p=0.653) and there was no association between baseline biomarker values and the base-

line osteophyte score or osteophyte progression to severe or very severe osteophyte (p=0.28). Trichotomization of patients in groups with a decrease, no change or increase in total Altmann osteophyte score indicated that there was a statistically significant difference between the three groups in changes in TGFβ-1 (p=0.044; figure 2A), but not IL-6 (p=0.898; figure 2B).

Conclusion: After KJD treatment, joint space widening and clinical improve-

ment are accompanied by osteophytes. Similar results were observed after treatment with HTO, suggesting effects occur in regenerative joint-preserving treatment may be accompanied by osteophyte formation.

Background: Knee joint distraction (KJD) is a joint-preserving treatment to postpone total knee arthroplasty (TKA) and has shown cartilage repair and clinical improvement in patients with severe knee osteoarthritis (OA), as has high tibial osteotomy (HTO). The observed cartilage repair activity could be related to an increase in growth factors, such as TGF-β-1, which increases in the synovial fluid (SF) during KJD treatment. However, animal and ex vivo human studies have shown that TGF-β-1 also induce formation of osteophytes, generally seen as an OA severity hallmark. Similarly, interleukin-6 (IL-6) was observed to increase in SF during KJD treatment and may also be associated with osteophytes.

As such, we hypothesized that joint-preserving regenerative treatments demonstrating cartilage repair activity lead to general tissue (re)generation, including osteophytes.

Objectives: To analyze osteophytes after KJD and compare this to HTO and natural progression in knee OA.

Methods: In PRODige study (NCT020700224) was performed in the framework of a collaboration between the Walloon region and ARTIALIS SA (conven-

tion n°6905).


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