

LIPOGEMS® IN ORTOPEDICS

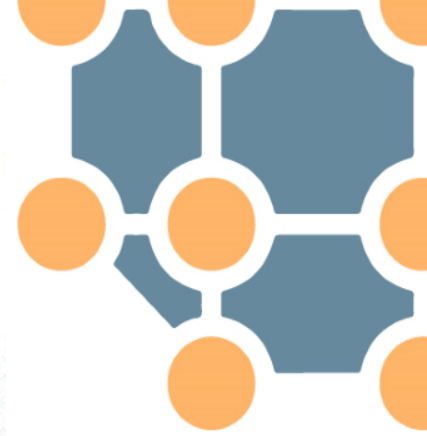
*Clinical experience with LIPOGEMS®: results
of 1 year follow-up*

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Orthopedic and Traumatology division
Negrar - Verona (VR), Italy*

From September 2013: 170 patients

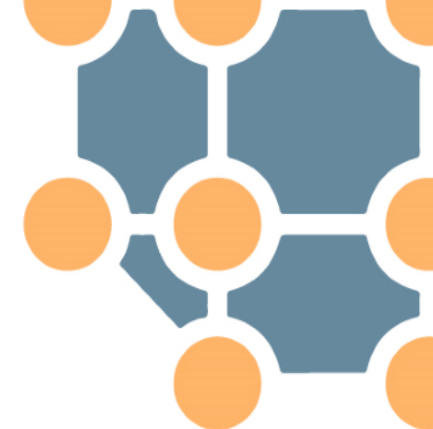
- 2013 → 2 Pz (4 months: 0.5/month)
- 2014 → 40 Pz (12 months: 3.3/month)
- 2015 → 102 Pz (12 months: 8.5/month)
- 2016 → 26 Pz (2 months: 13/month)



TAMAK STUDY

OUTCOME OF A SINGLE INTRA-ARTICULAR INJECTION OF AUTOLOGOUS
MICRO-FRAGMENTED ADIPOSE TISSUE IN PATIENTS AFFECTED BY KNEE
CHONDROPATHY: A **RETROSPECTIVE OBSERVATIONAL** STUDY

TAMAK STUDY



Design of the study

Retrospective observational, monocentric, no profit

Objective of the study

Evaluation of the outcome of a single intra-articular injection of Lipogems® in patients affected by knee chondropathy. The end point were determined evaluating the improvement in symptoms, functional recovery and radiographic data compared to the baseline.

Inclusion criteria and period of observation

Consecutive patients affected by knee chondropathy observed at the Centre of Arthroscopy and Knee Surgery at Sacro Cuore - Don Calabria Hospital - Negrar (VR) and all treated with Lipogems® between 1 January 2014 and 31 December 2014.

Primary End-point

Clinical improvement of the scores IKDC-subjective, KOOS, VAS pain scale, Tegner Lysholm Knee at 12 months follow-up. A 10% improvement in the scores has been considered clinically relevant.

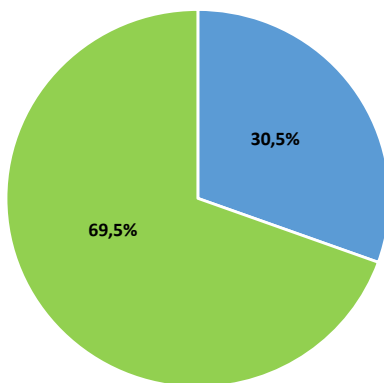
Secondary End-point

Safety of the procedure evaluating type and incidence of any adverse event.

POPULATION OF THE STUDY

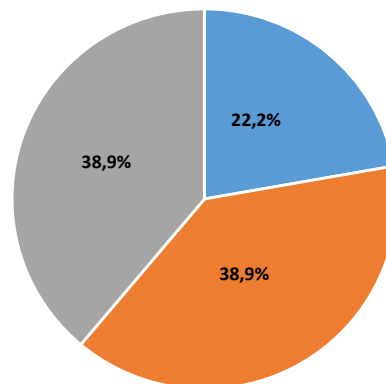
36 PATIENTS

SEX



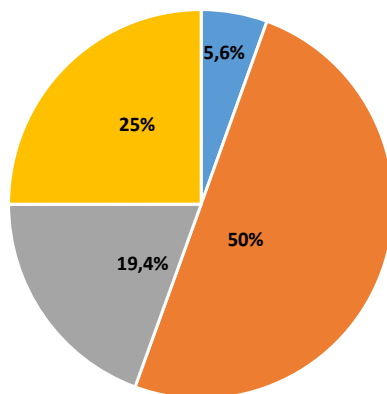
■ F ■ M

AGE



■ 20-35 ■ 35-45 ■ 45-60

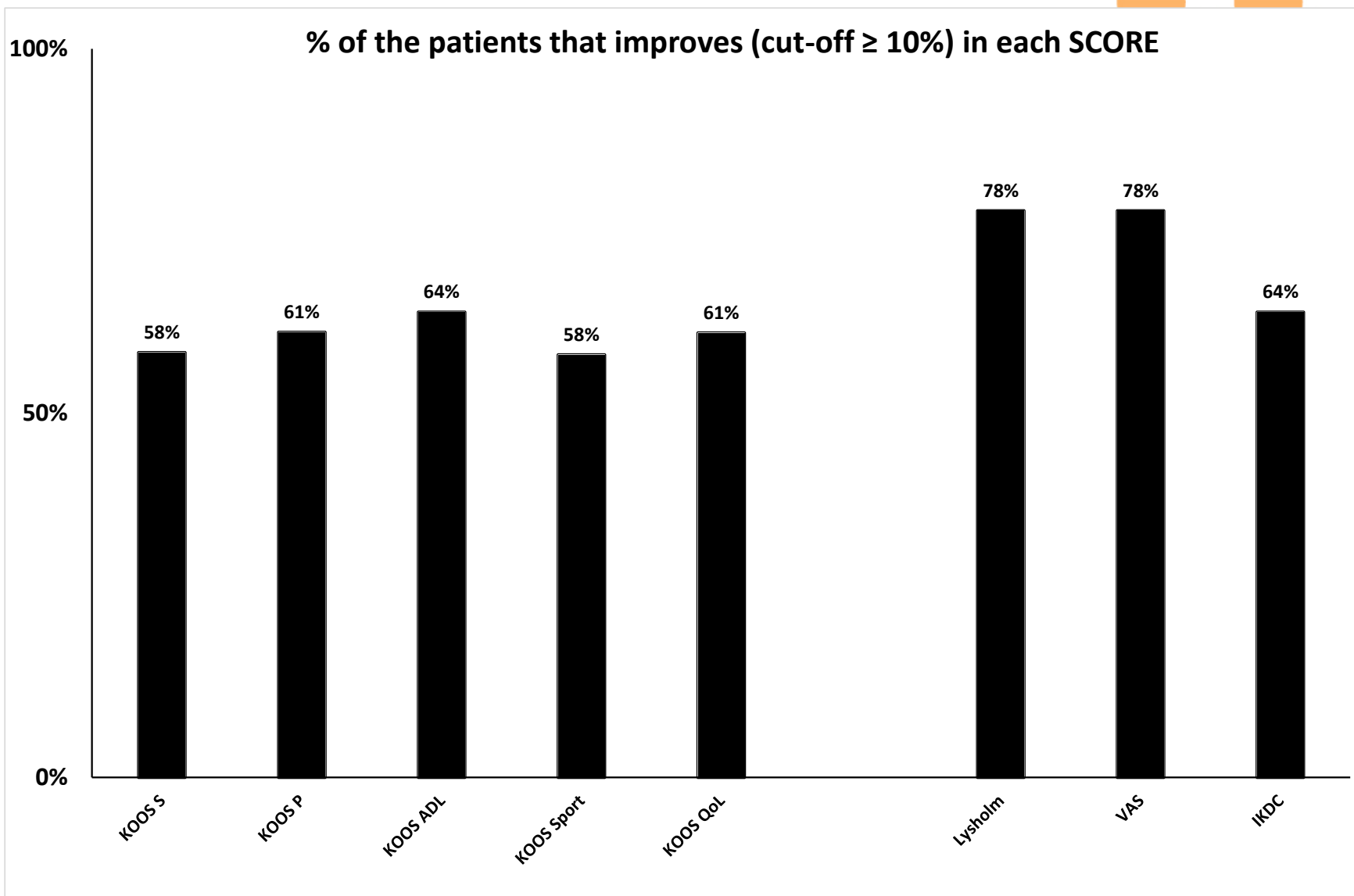
SPORT



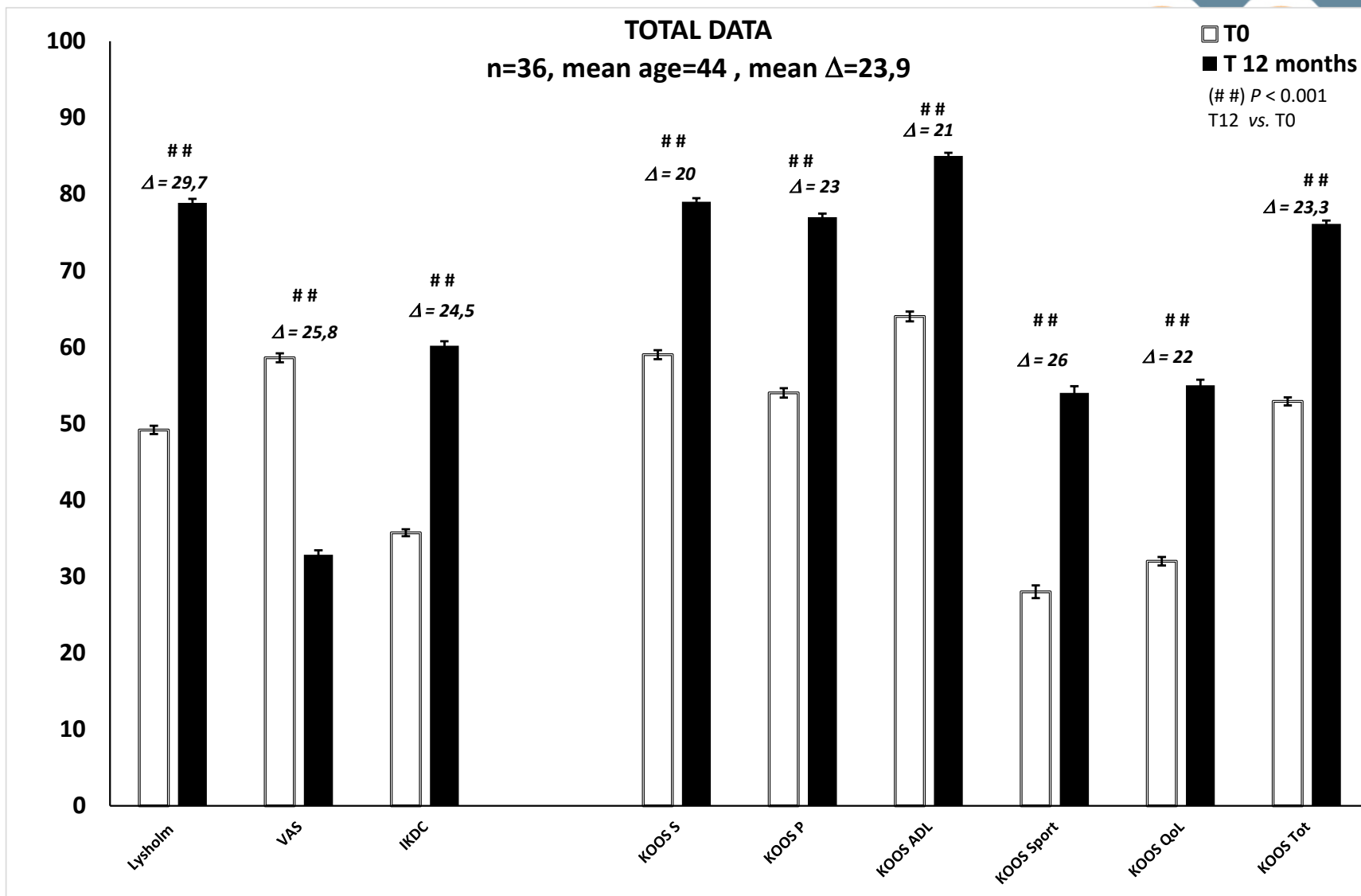
■ Agonistic ■ Amateur ■ Sometimes ■ NO

VAS ≥ 40	28/36 patients
KOOS pain ≤ 50	16/36 patients
KOOS ADL ≤ 50	10/36 patients
KOOS Sport ≤ 50	30/36 patients
KOOS QoL ≤ 50	31/36 patients
IKDC ≤ 50	29/36 patients

RESULTS

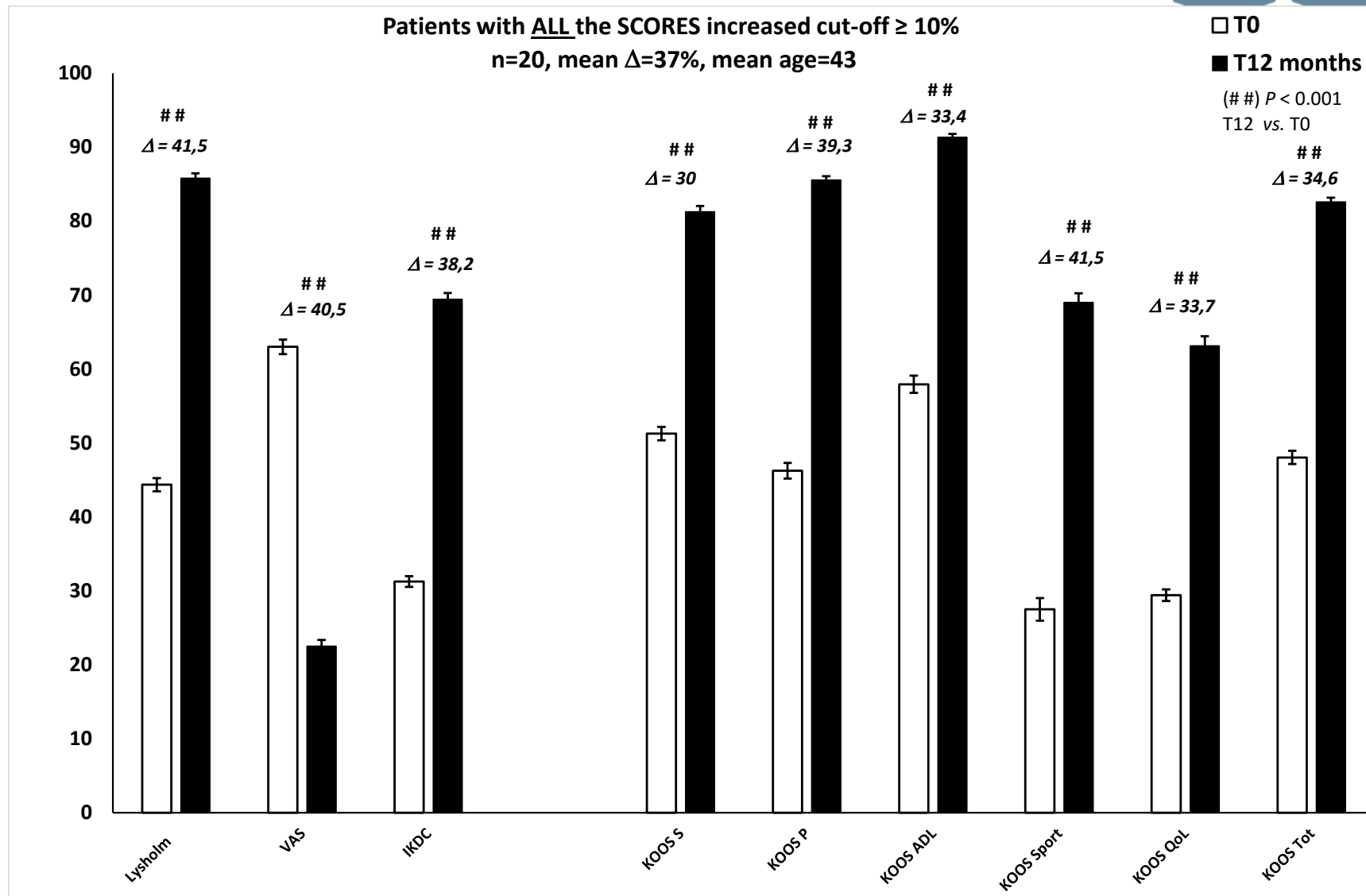


RESULTS



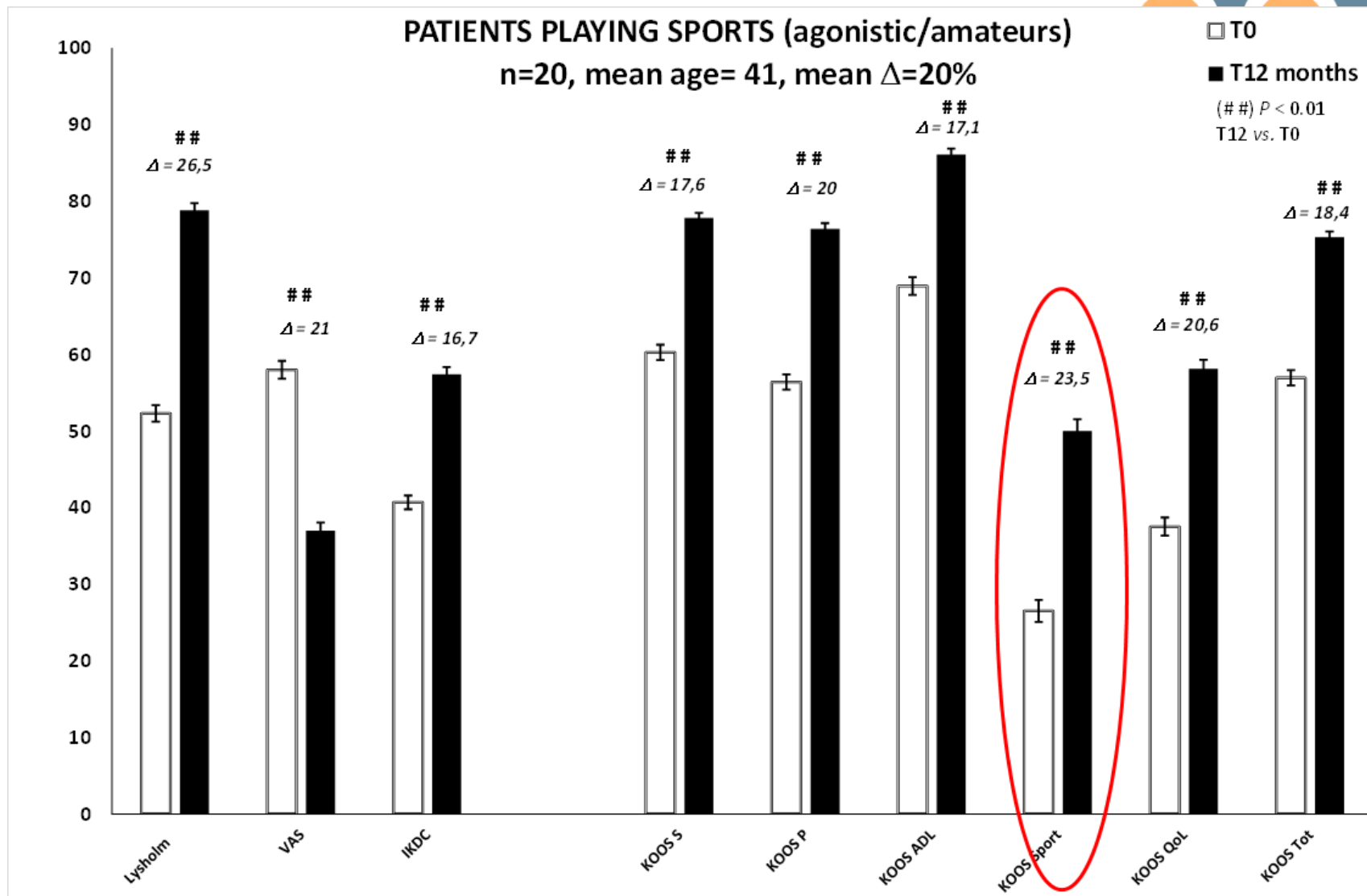
The % of increase, considering all patients and all scores, is around 24%

RESULTS

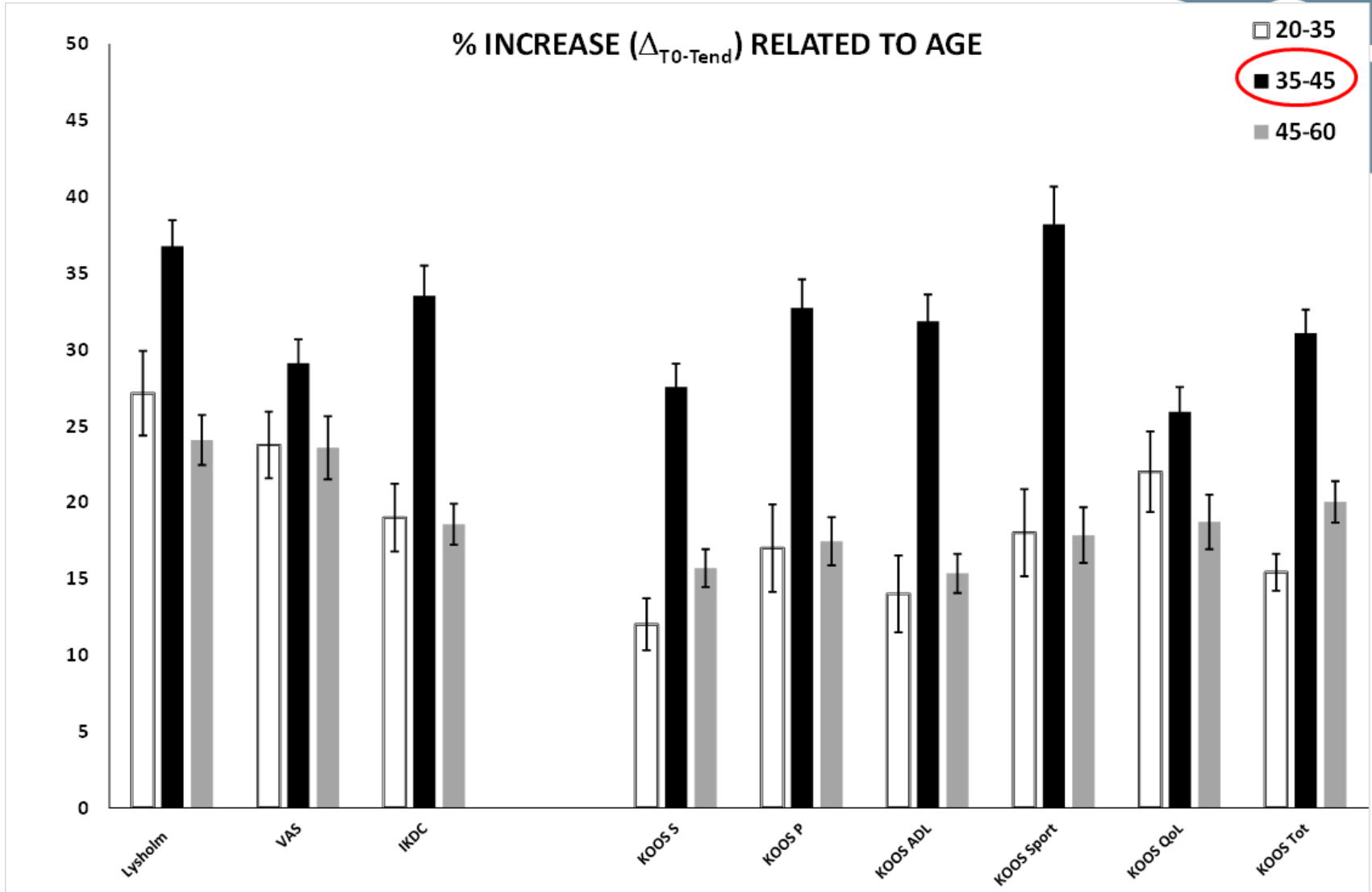


Out of 36, 20 patients improve of at least 10% in all the scores, with a mean % increase of 37%

RESULTS



RESULTS

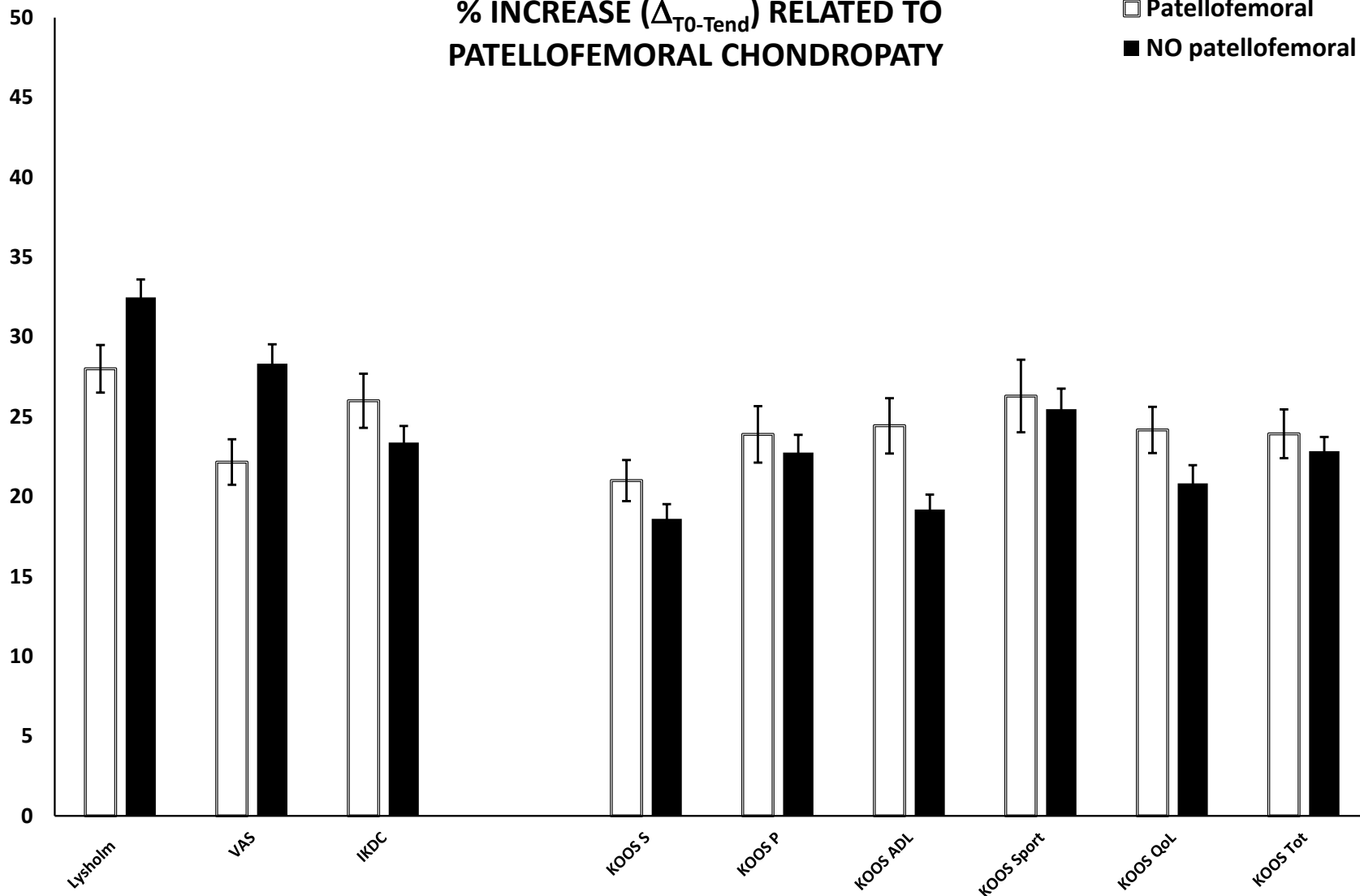


Patients in the range 35-45 show better results (compared to 20-35 and 45-60) in all the scores except for VAS and KOOS QoL which are comparable in the 3 groups

RESULTS

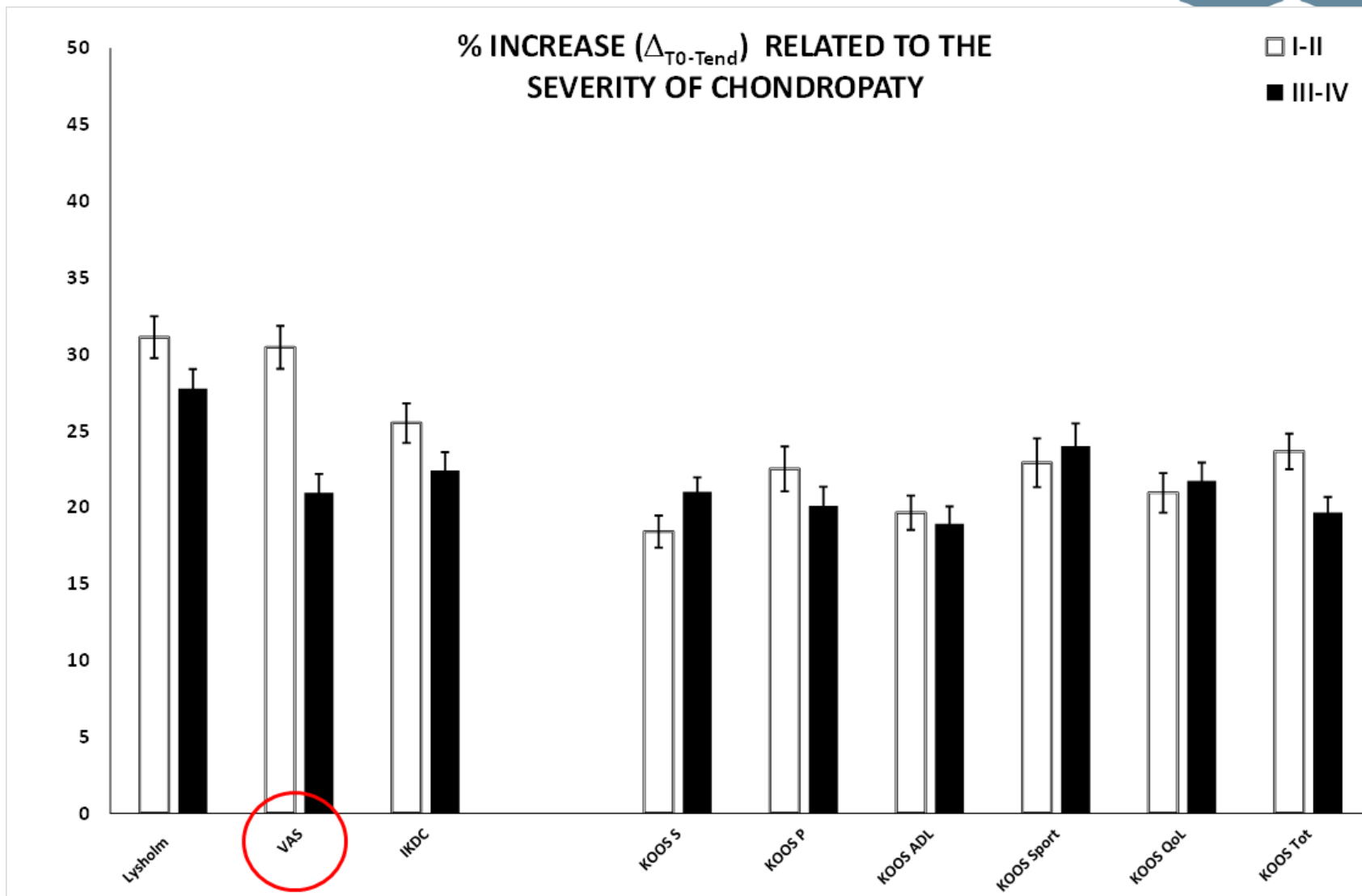
**% INCREASE ($\Delta_{T0-Tend}$) RELATED TO
PATELLOFEMORAL CHONDROPATY**

□ Patellofemoral
■ NO patellofemoral



No differences in the outcome related to the presence or not of patello-femoral chondropathy

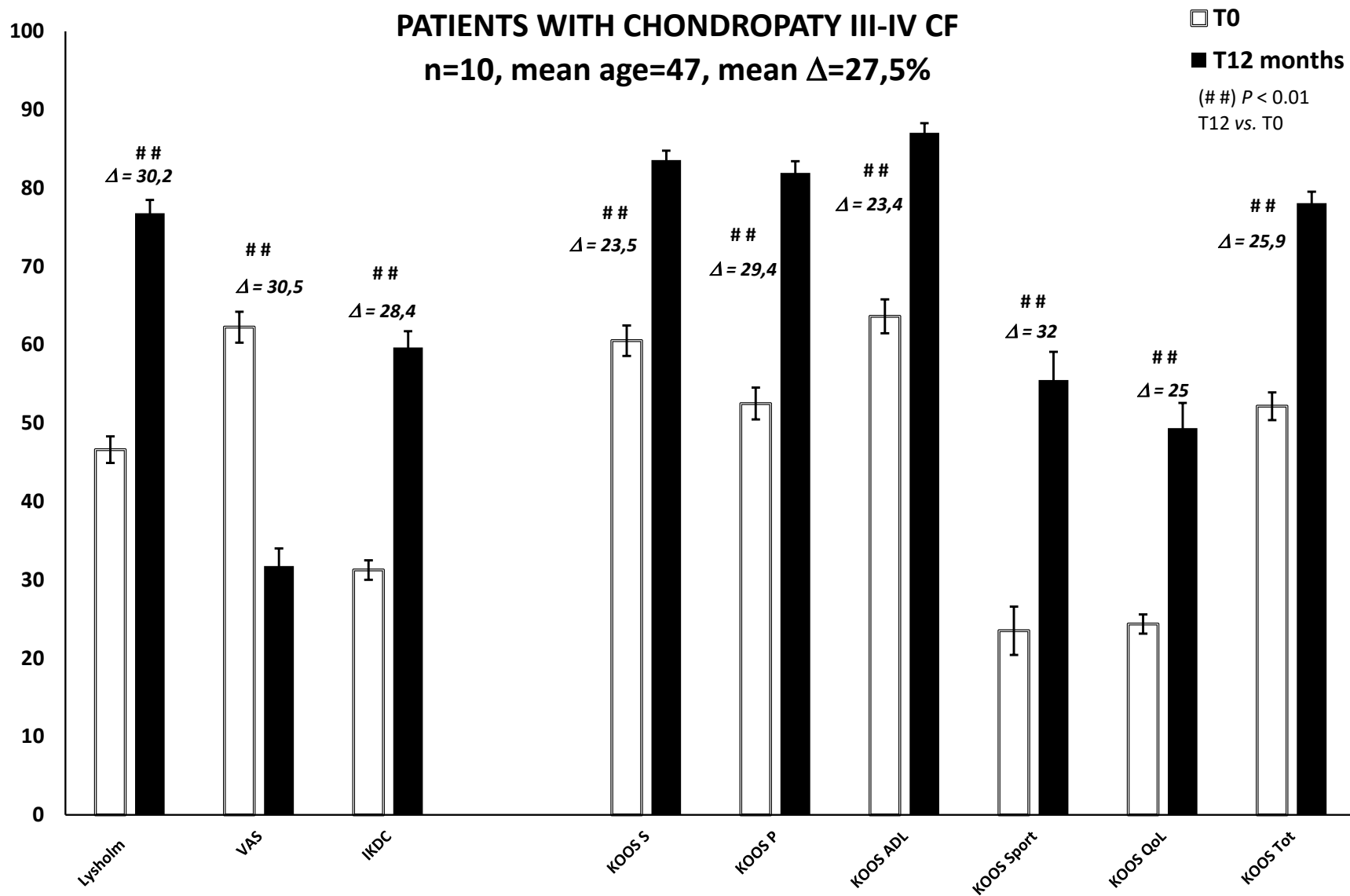
RESULTS



No differences in the outcome related to the severity of the chondropathy. Improvement in VAS seems a bit affected in patients with severe chondropathy (not statistically significant)

RESULTS

PATIENTS WITH CHONDROPATY III-IV CF
n=10, mean age=47, mean $\Delta=27,5\%$



RESULTS

Despite the heterogeneity of the population, the trend is of **SIGNIFICANT IMPROVEMENT**.

PAIN, SPORT and QoL are the score with better clinical outcome.

The associated surgery is important.

Patello-femoral pathology affects the level of pain.

The heterogeneity of the population possibly affects the quality of the study, but will help in the definition of more focused parameters for the future prospective study:

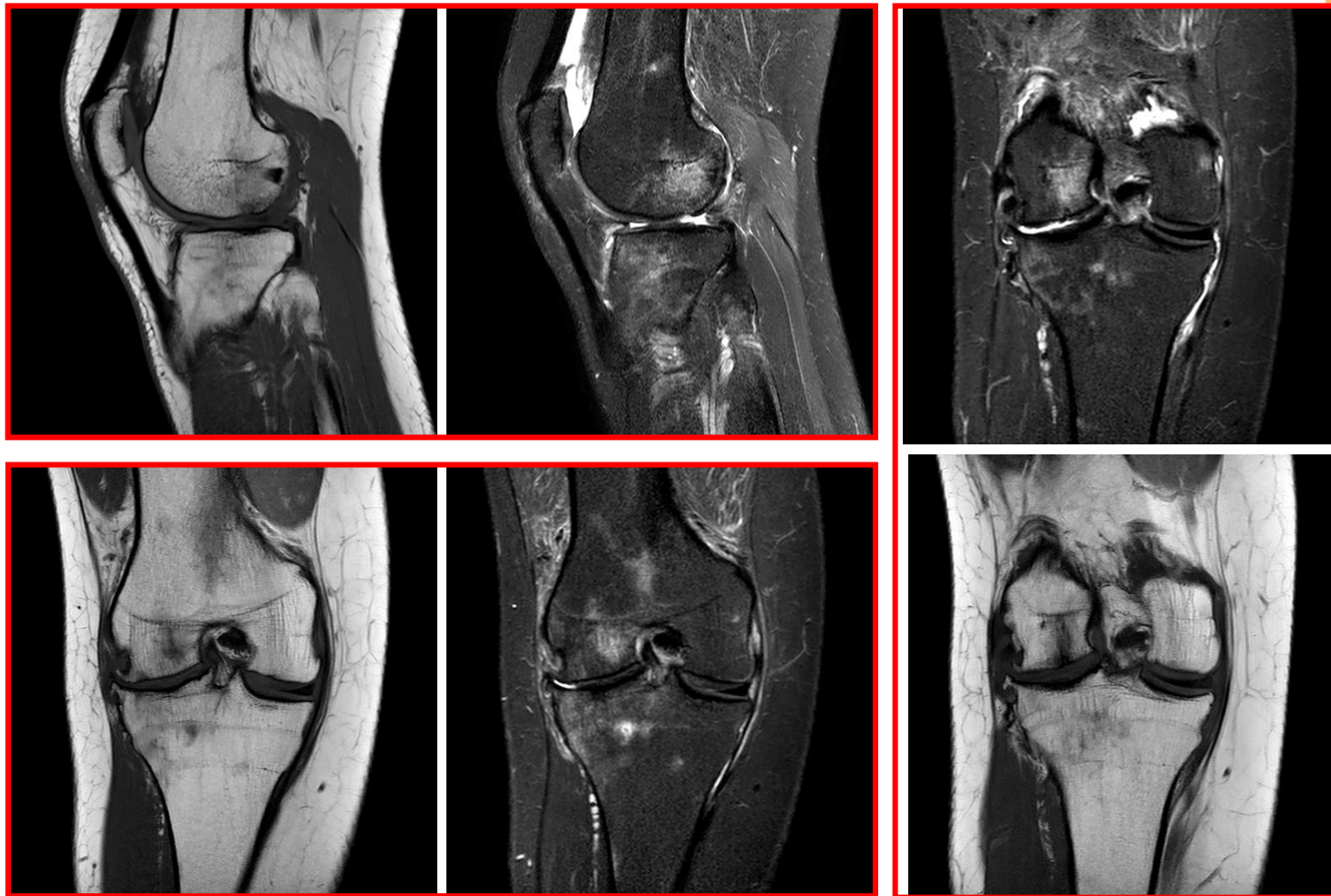
- Severity of chondropathy
- Type of chondropathy
- Associated surgery (infiltration + arthroscopy)
- Age of the population

COMPLICATIONS/ADVERSE EVENTS: no infections/fever nor any post-arthroscopic algodystrophy. Only 2 cases with abdominal hematoma (1 patient with coagulation defects and 1 patient extremely thin).

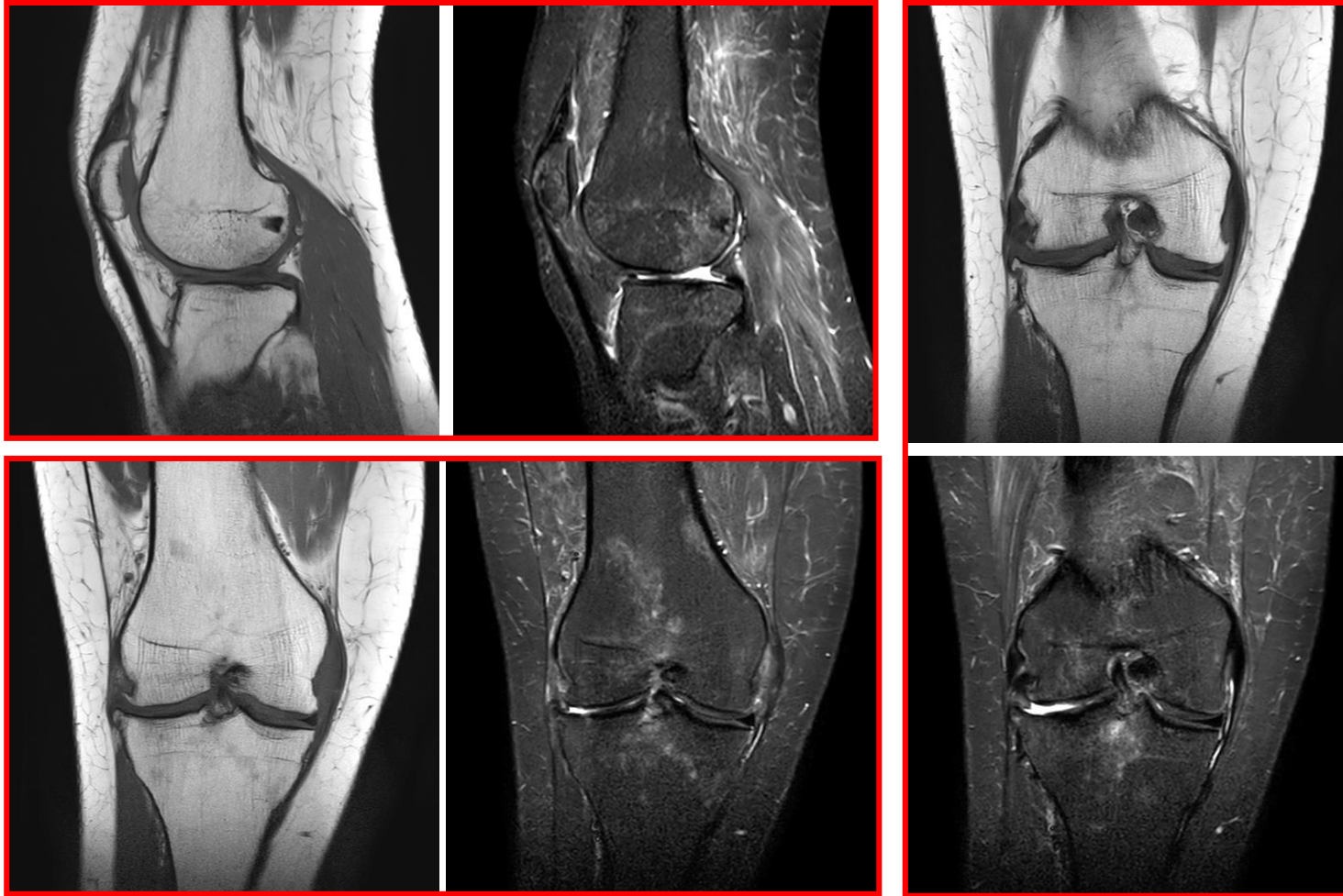
CASE REPORT 1

Female, 41 y.o. External and medial synovial ganglion pain due to lateral meniscectomy (12 years before). Diffused osteochondropathy with lateral F-T compartment osteophytosis. Articular debridement, medial synovial ganglion removal + LIPOGEMS®.

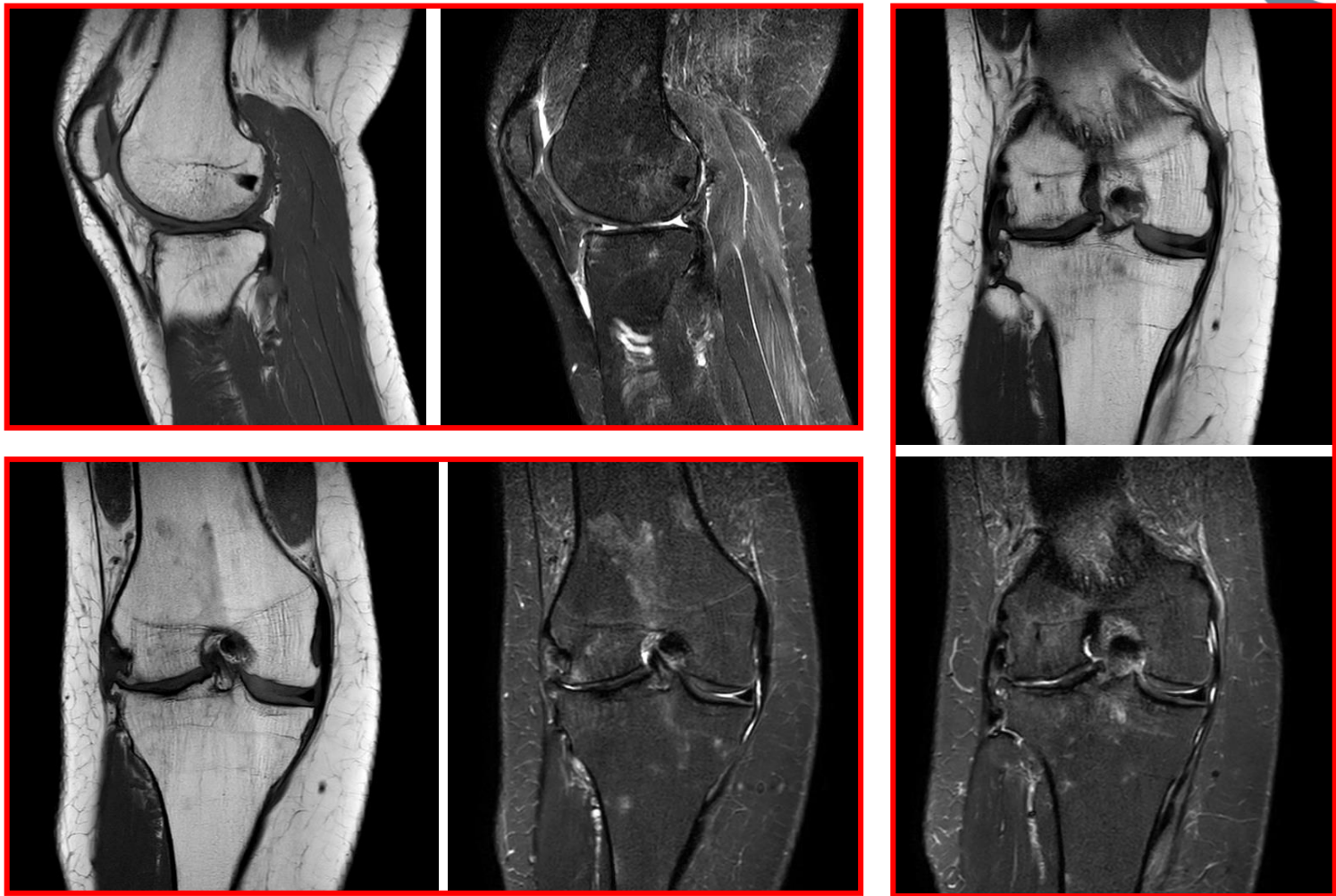
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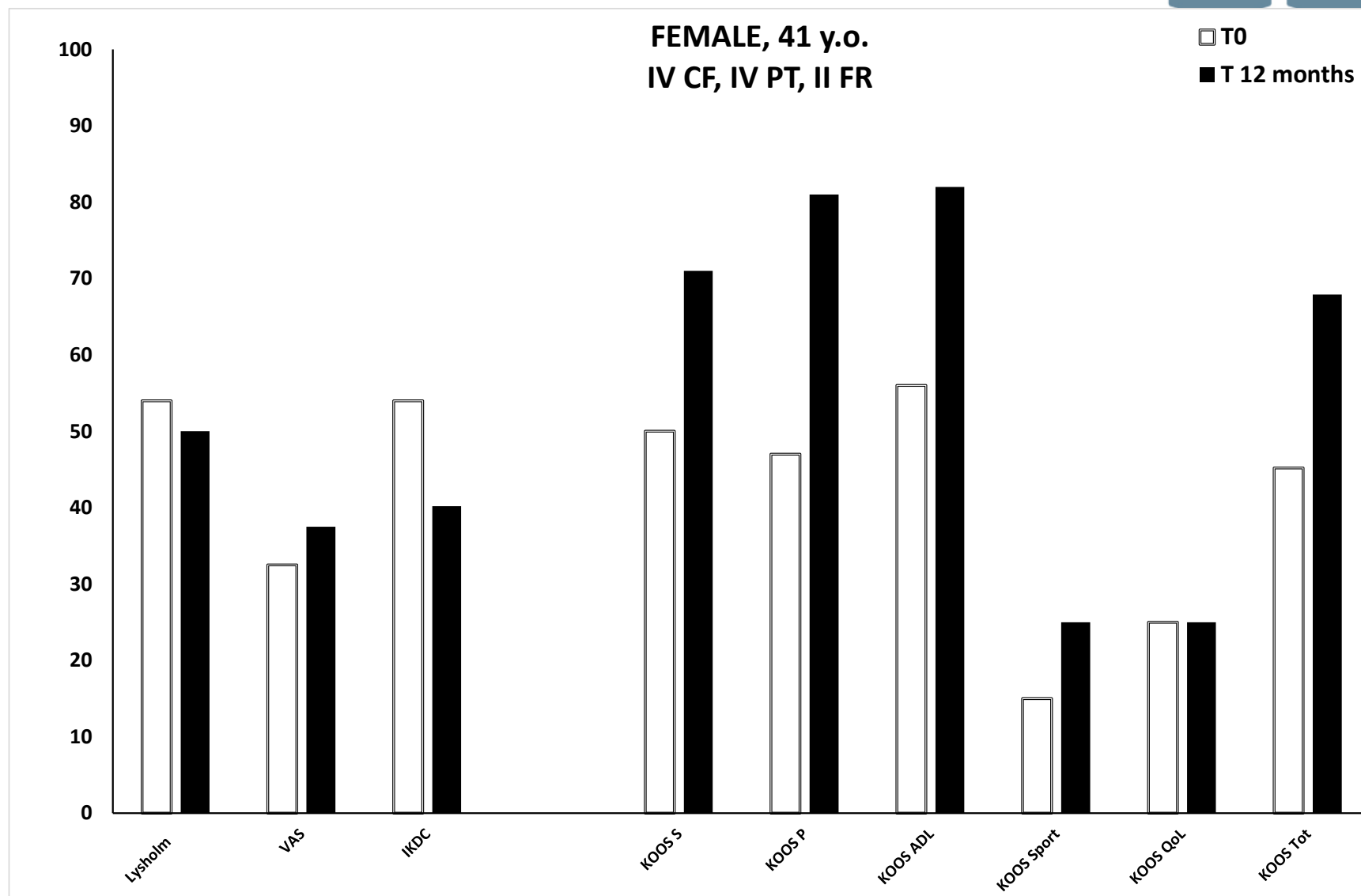


POST-OP 6 MONTHS



POST-OP 12 MONTHS



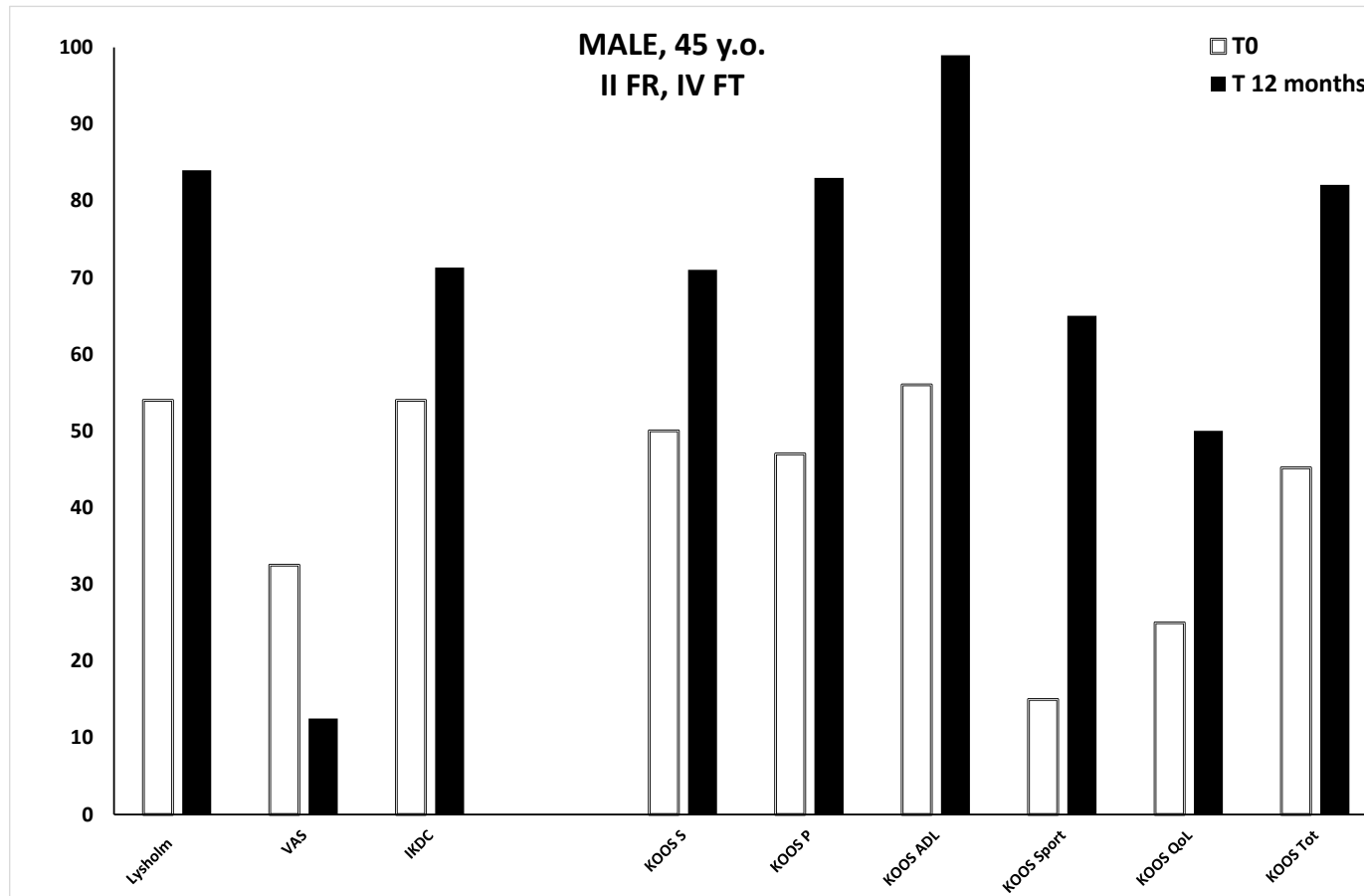


Currently jogger, despite the absolute prohibition

CASE REPORT 2

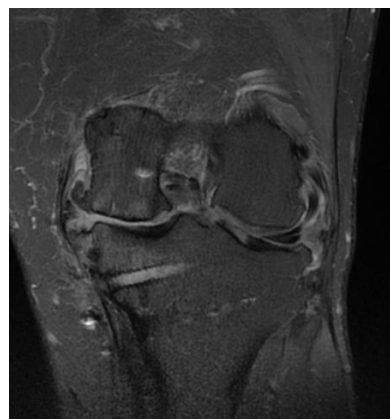
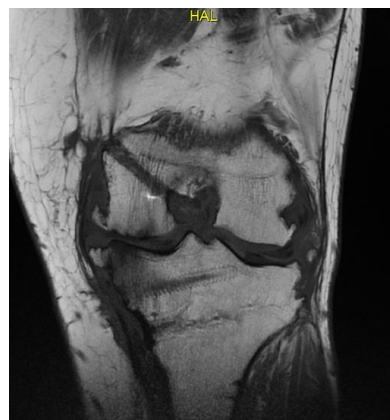
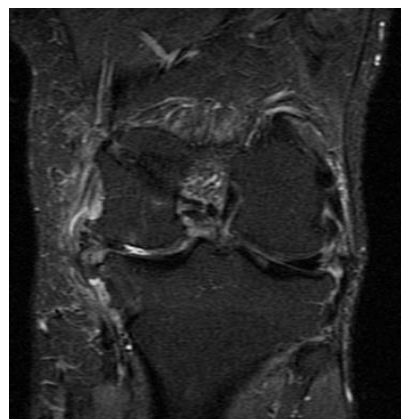
Male, 45 y.o. High energy trauma 29 years before: diaphyseal femoral fracture (Küntscher nail) + LCP reconstruction and open meniscal suture. Arthroscopic debridement + HTO in 2012 for medial knee pain in knee varus.

In May 2014 removal of the plaque + Lipogems® because of mds intolerance, articular diffused pain especially during sport activity. Followed-up at 15d, 1-3-6-12-18 months he improved and maintained his welfare state and sport activity.



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