

Osteochondral autograft transfer has good outcomes in patients younger than 40 years old, and only fair outcomes in patients older than 40 years old

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Disclosures

- F. Figueroa: Nothing to disclose
- D. Figueroa: ISAKOS board member, Stryker consultant.
- R. Calvo: Stryker consultant.
- M. Nuñez: Nothing to disclose
- M. Itriago: Nothing to disclose

Introduction

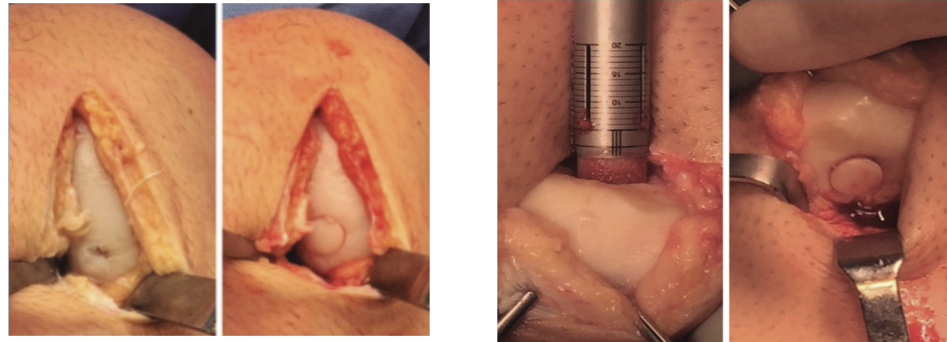
Chondral and osteochondral (OC) lesions

- Treatment options are variable and dependent on many factors¹
 - Patient age and activity level, location and size of the defect, meniscal status, limb alignment, concomitant knee pathologies, chronicity, and comorbidities

Osteochondral autograft transfer (OAT)

- Osseous integration is faster and has the advantage of transferring hyaline cartilage
- Has been reported to offer durable results with maintenance of clinical benefits at >10 years of follow-up¹
- Previous studies using OAT as mosaicplasty (multiple small plugs) had showed poorer outcomes with increasing age²

To date, the literature on outcomes after OAT without including the classic mosaicplasty technique in middle-aged patients is limited



Objective

To evaluate a cohort of patients that received an osteochondral autograft transfer (OAT) and to correlate their clinical results with the patients' age when the procedure was performed

Materials and Methods

- Retrospective observational study
- Approval of the Ethics Committee
- Chart review of electronic medical records

Inclusion criteria

Patients who had undergone an OAT (OATS[®], Arthrex, Naples, FL) in the knee to treat an osteochondral lesion between January 2015 and January 2020.

Minimum 24-month follow-up

2 groups

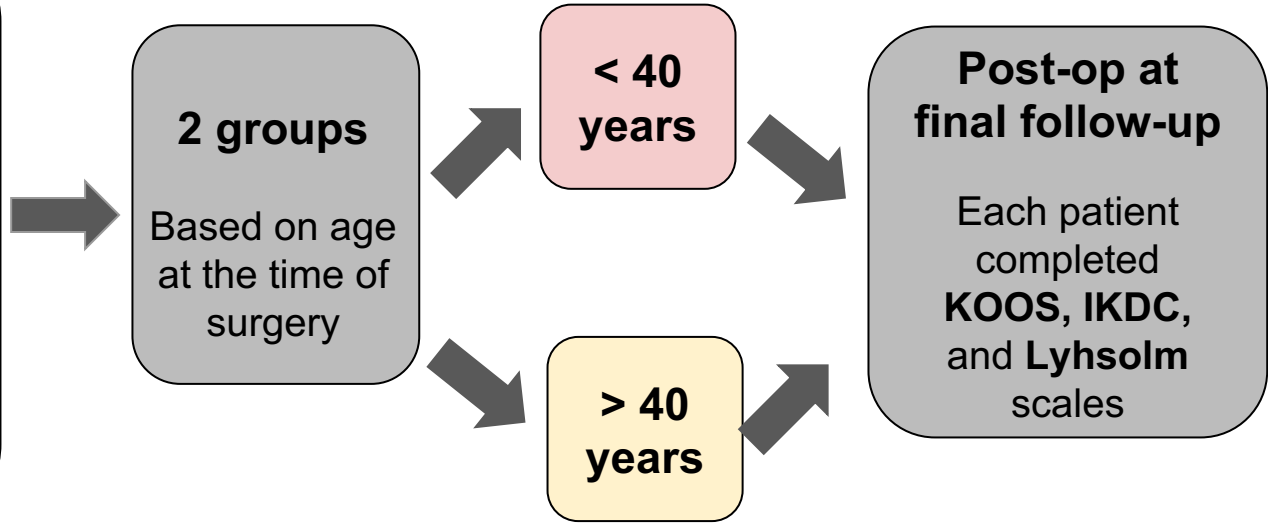
Based on age at the time of surgery

< 40
years

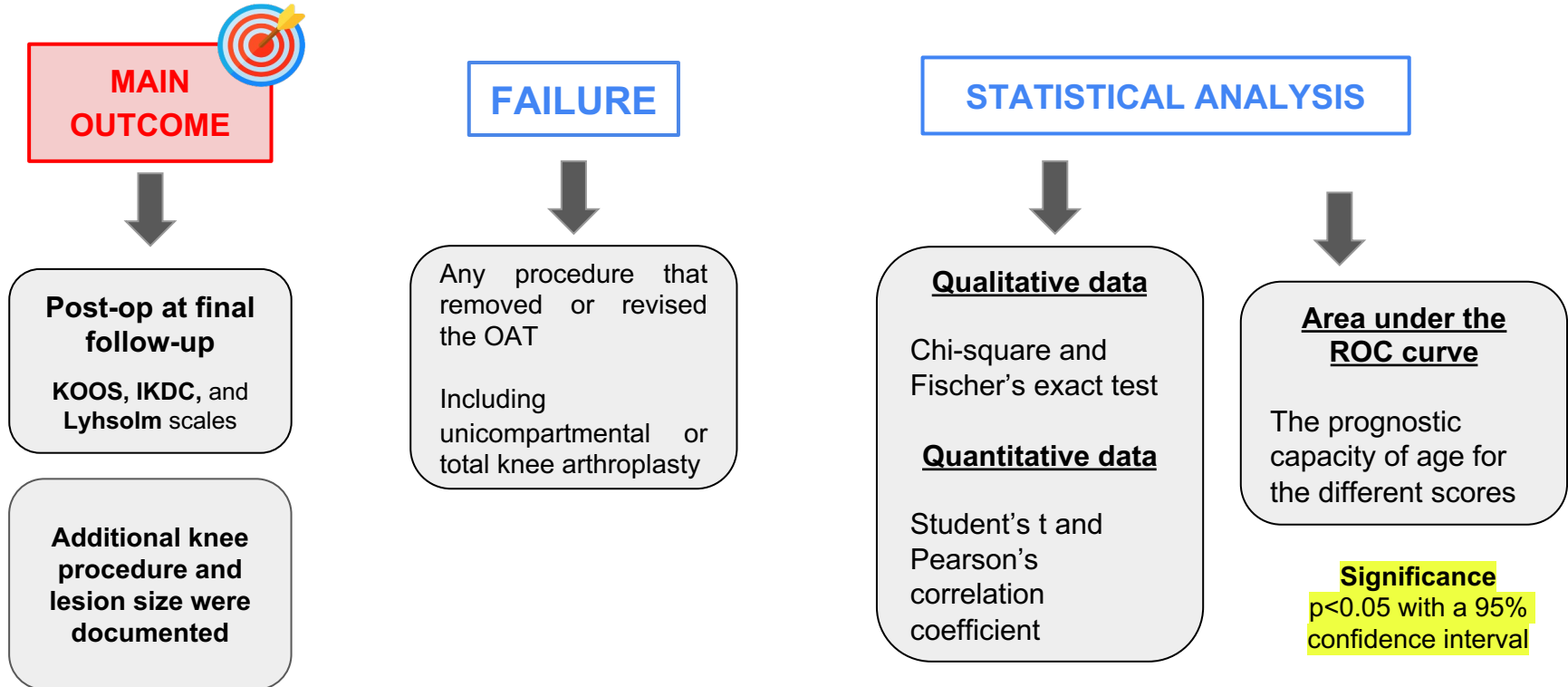
> 40
years

Post-op at final follow-up

Each patient completed **KOOS**, **IKDC**, and **Lyhsolm** scales



Materials and Methods



Results

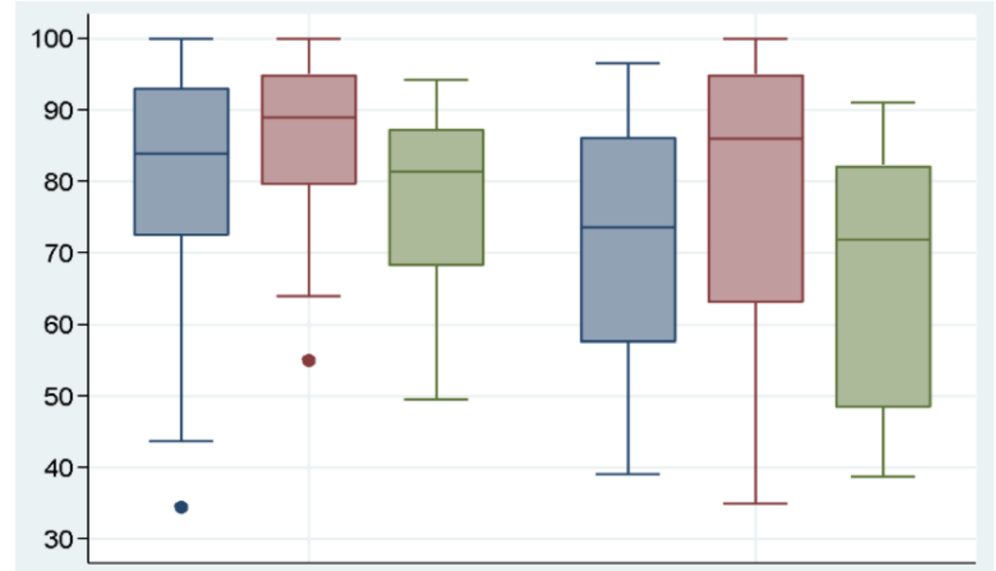
- 51 patients met the inclusion and exclusion criteria.
- Mean follow-up was 4.2 years (2-7).
- Mean age of the cohort was 32.1 (14-51) years old.
- Mean size of the OC lesion was 1.2 cm² (1-1.7)
NO differences between groups (p=0.86).
- 32 patients had additional procedures performed
NO differences between groups (p=0.56)
- There were no failures in any group.

Demographic characteristics	<40 years mean (SD)	≥40 years mean (SD)	p Value
Age at surgery (y)	26.7 ± 7.0	44.3 ± 3.8	0.0001
Follow up (y)	4.4 ± 1.8	3.9 ± 2.2	0.42
Sex			0.84
Female	10 (28.6)	5 (31.2)	
Male	25 (71.4)	11 (68.8)	

Additional Procedure	<40 years	≥40 years	Total
ACLR	2	0	2
ACLR + Meniscectomy	2	1	3
ACLR + Meniscal repair	1	1	2
Revision ACLR	2	0	2
Revision ACLR + Meniscectomy	1	0	1
Meniscectomy	7	7	14
Meniscectomy + Meniscal Repair	1	0	1
Meniscal Transplant	5	1	6
Osteotomy	1	0	1
Total	22	10	32

Results

Clinical Scores	<40 years mean (SD)	≥40 years mean (SD)	p Value
IKDC	80.8 ± 15.9	71.2 ± 19,4	0.03
Lysholm	85.9 ± 10.8	77.0 ± 21.6	0.02
KOOS	78.3 ± 11.8	68.9 ± 18.5	0.01

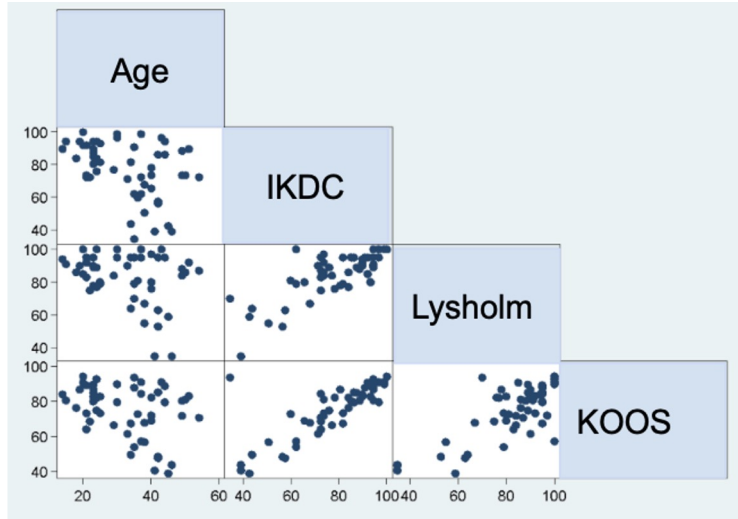


<40 years

≥40 years



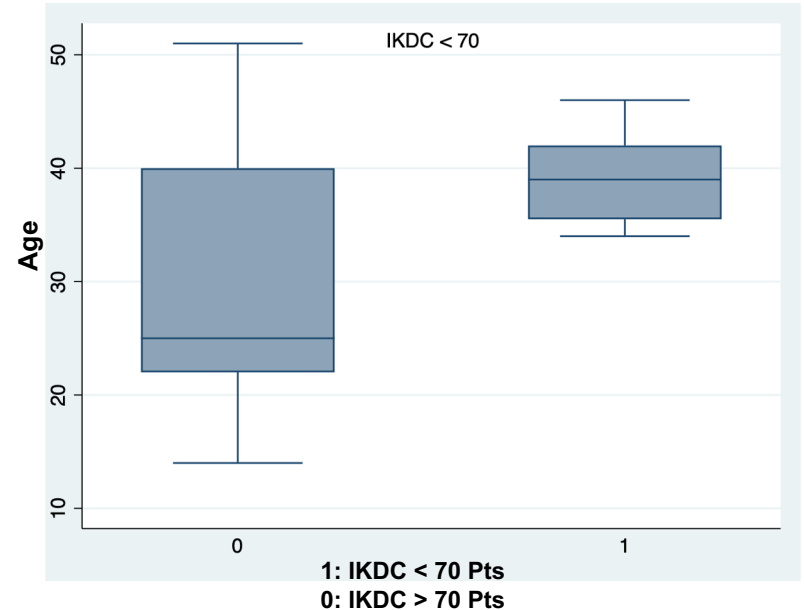
Results



For every year older
IKDC score decreased 0.7 points (**p=0.004**)
Lysholm score decreased 0.4 points (**p=0.03**)
KOOS score decreased 0.5 points (**p=0.013**)

AUC 0.76 [95% CI 0.63 - 0.88]

From the age of 34 years or older I can identify with a sensitivity of 100% all patients with a poor functional score (IKDC less than 70 points).



Conclusion

- OAT as a single or double plug **has good outcomes** in patients younger than 40 years old, and only fair outcomes in patients older than 40 years old
- **Clinical scores tend to decrease** approximately half a point for each year of patient age at the time of surgery.
- Based in the prognostic capacity of age using the area under the ROC curve, **the ideal candidate** for an OAT procedure **is a patient younger than 34 years old.**

Thank You

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