



ISAKOS
CONGRESS
2023



Boston
Massachusetts
June 18–June 21

Welcome

isakos.com/2023 • [#ISAKOS2023](https://twitter.com/ISAKOS2023)



2023



ISAKOS
CONGRESS
2023



Boston
Massachusetts
June 18–June 21

Viability And Outcomes Of Osteochondral Lesions Of The Talar Dome Using A One-Single Stage Autologous Matrix Combining PRGF + Chondral Chips.

Our Technique And Experience.

David Barastegui, Alfred Ferre, Patricia Laiz-Boada, Roberto Seijas-Vazquez, Daniel Izquierdo, Silvia Vizcaino, Xavier Cuscó, Montserrat Garcia-Balletbo, Ramon Cugat



DISCLOSURES

Smith+Nephew

Consultant

Ramón Cugat / David Barastegui / Roberto Seijas-Vazquez.

The other authors have no disclosures.



ISAKOS
CONGRESS
2023

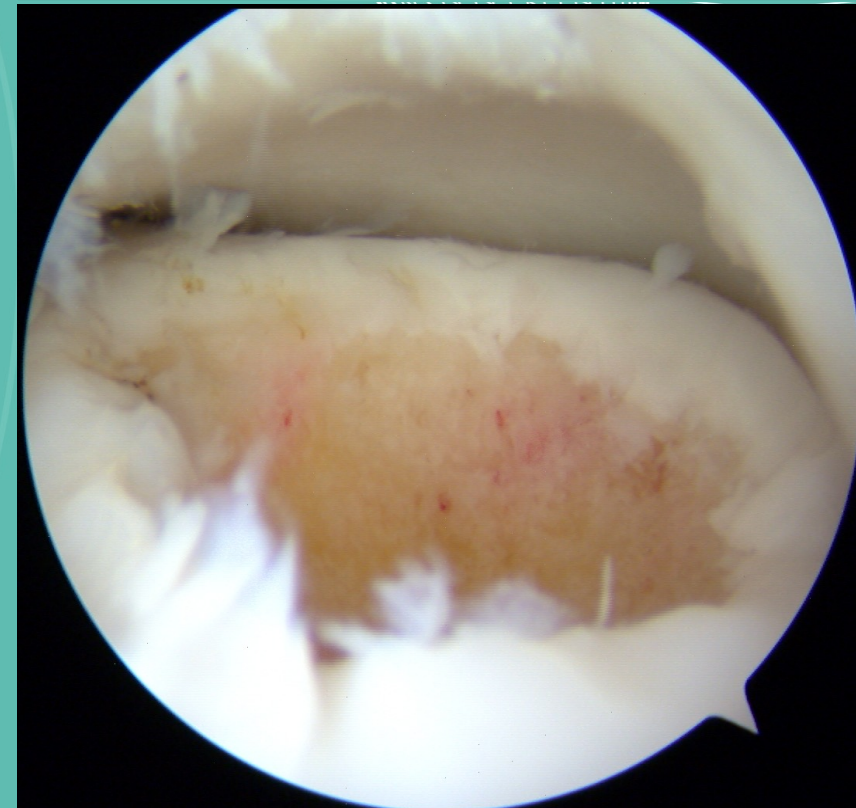


Boston
Massachusetts
June 18–June 21

INTRODUCTION

- Osteochondral talar dome lesion has a strong impact in the sports practice and is one of the greatest challenges for an orthopedic surgeon.
- Bone marrow stimulation is one of the therapies that has more consensus regarding the treatment of small lesions (<15mm²) but hasn't for larger lesions.
- Size is the key point for providing a matrix to fill the lesions or not.
- In recent years, the emergence of artificial matrix, such as ACI and MACI, have led to an exponential increase of therapies for the treatment of OCL.

Recently, our group has described a novel autologous-made matrix using hyaline cartilage chips and platelet-rich plasma for focal lesions.



ISAKOS
CONGRESS
2023



Boston
Massachusetts
June 18–June 21

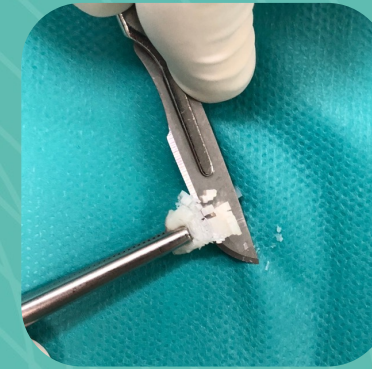
AIM

- The objective of this study is to evaluate the clinical evolution after 1 year follow-up of our series of cases treated using this novel technique.

CN-Biomatrix® Preparation



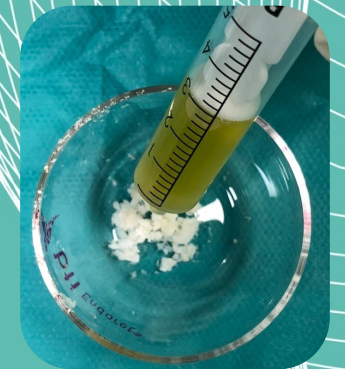
Chondral fragments



Mincing cartilage



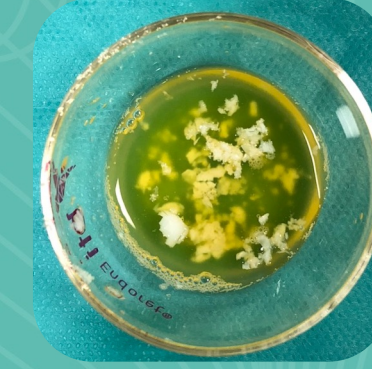
Chips



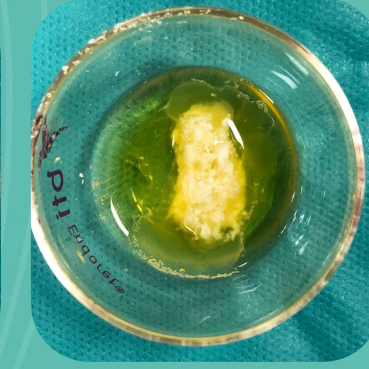
FP PRGF



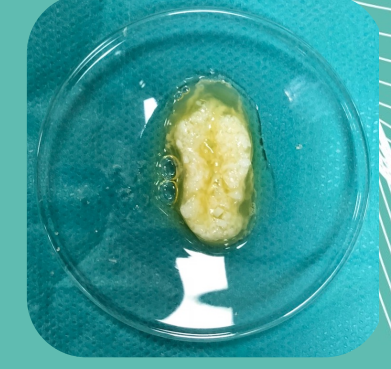
Exudate



Cloting process



Matrix formation



Matrix



ISAKOS
CONGRESS
2023



Boston
Massachusetts
June 18–June 21

MATERIAL & METHODS

From 38 patients who underwent surgery consisting of hyaline cartilage chips and platelets-rich plasma matrix placement over the focal injury, 35 met the criteria and were included in the study.

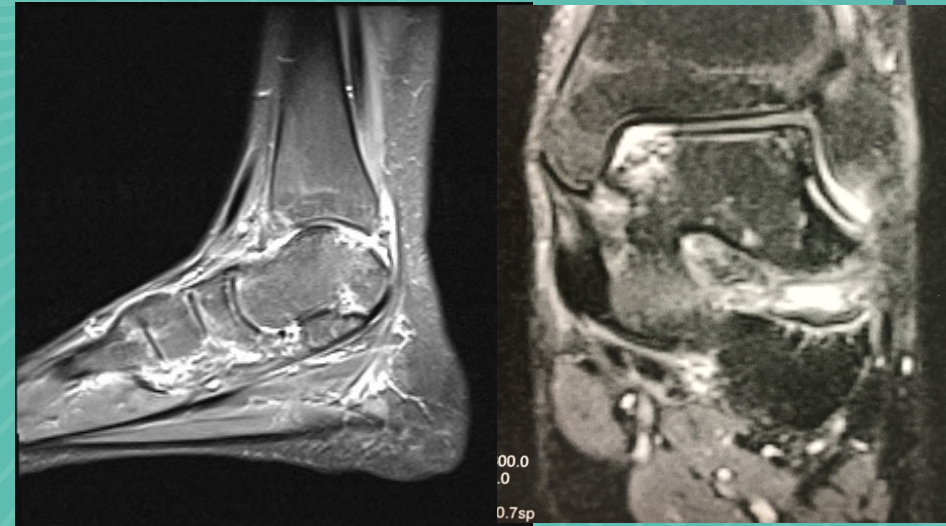
Period between 2015 and 2021

Database:

- Sex, age
- Kind of lesion, localization
- Sports activity, Tegner level
- Preoperative symptoms and functional tests (VAS, AOFAS and FADI), at 6 and 12 months postoperatively.
- Patients were informed, giving their consent for the intervention.

Inclusion criteria:

- OCL > 1,4mm²
- Clinical symptoms after conservative treat >3m
- At least 1y f-u



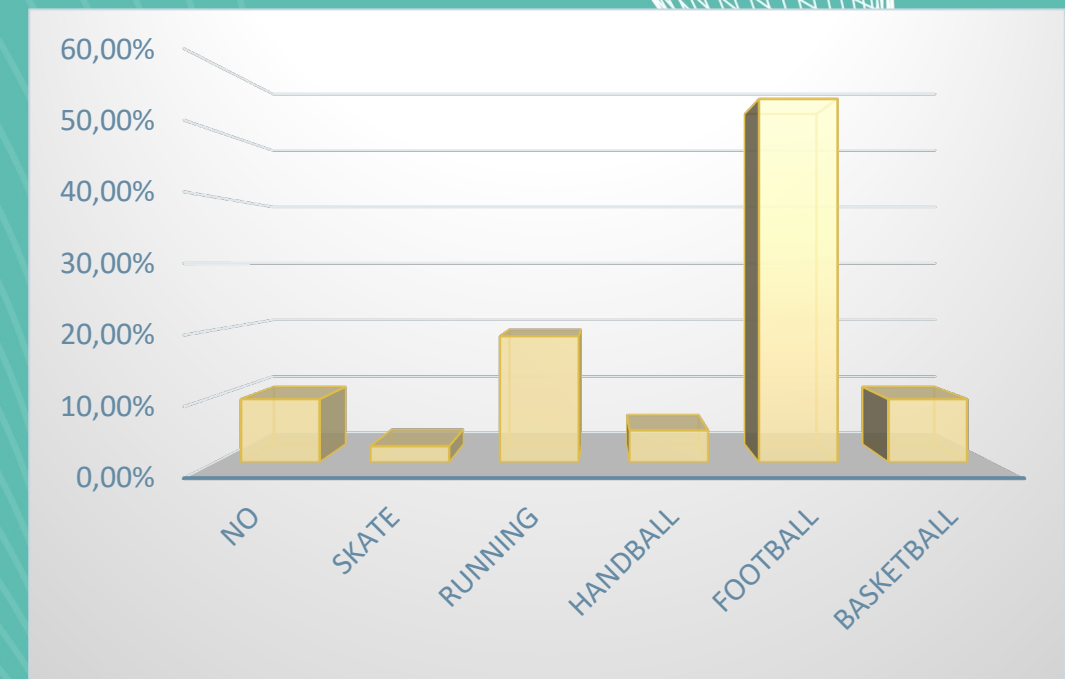
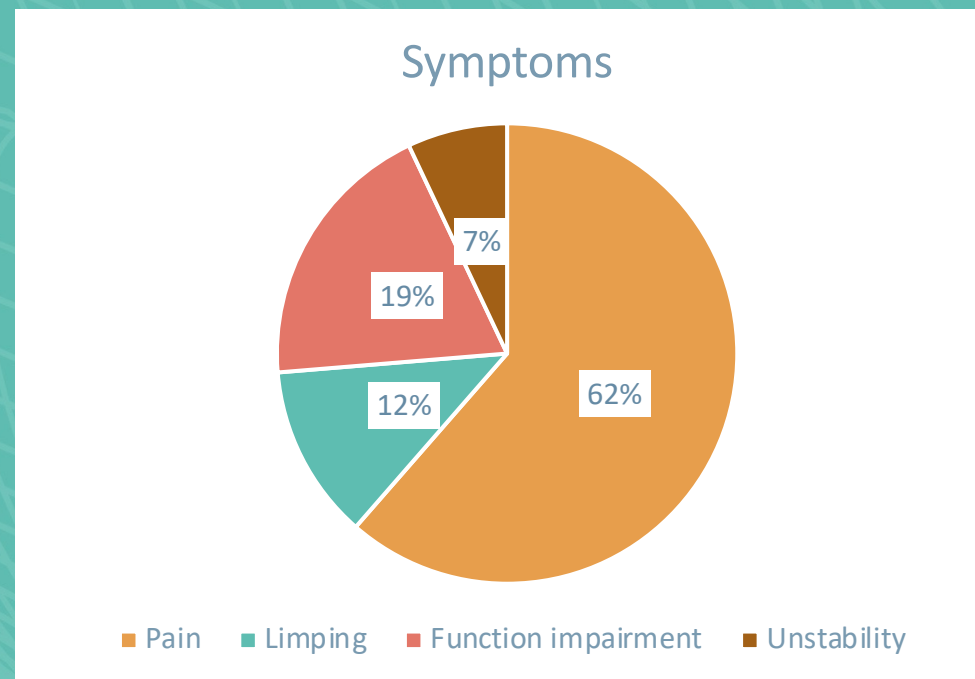
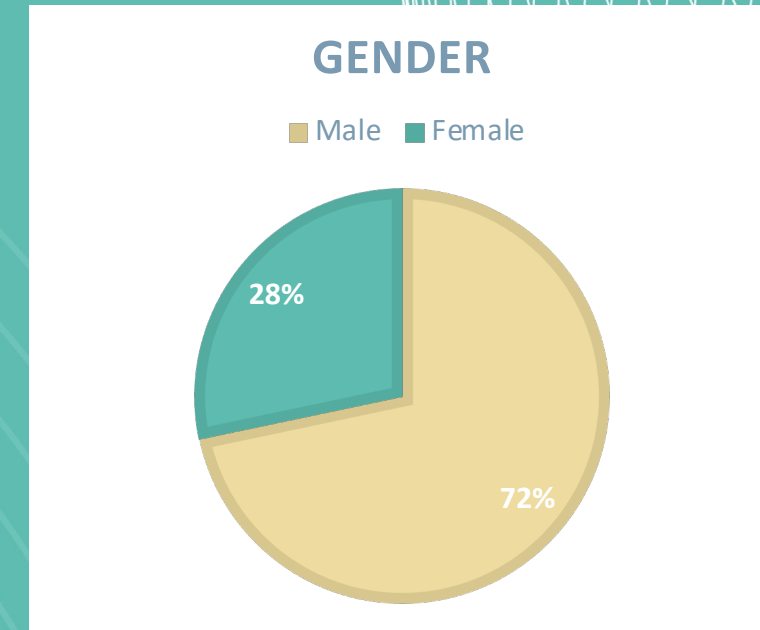
RESULTS

Age: 28,84 ± 10,63 [Range 14-51y]

Height: 1,72 ± 0,10 m

Weight: 69,33 ± 10,36 kg

BMI: 23,37 ± 1,98



RESULTS

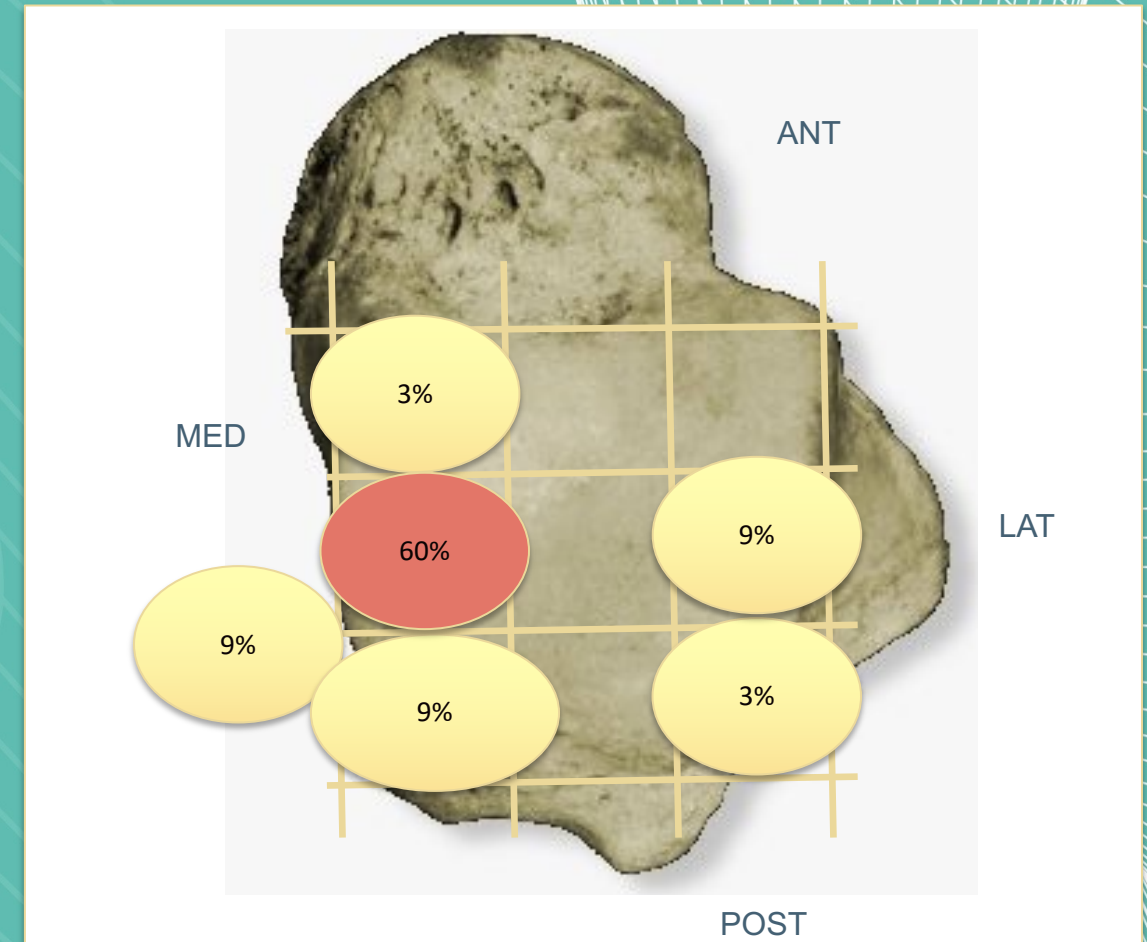
Location: Tibia 2 (right) Talus 33 (23 Right : 10 Left)

Depth: Osteochondral 88%, Only condral 22%

Needed of bone graft: 11,6% only

Mean Area: $1,51 \pm 0,55 \text{ cm}^2$

4 cases one-step instability recon + matrix (12%)



ISAKOS
CONGRESS
2023



Boston
Massachusetts
June 18–June 21

Instituto Cugat

UIC
barcelona

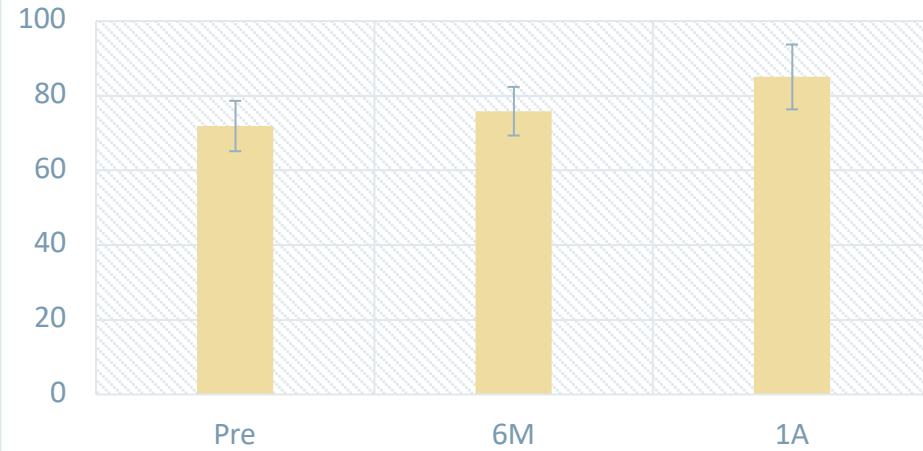


MUTUALITAT
DE FUTBOLISTES



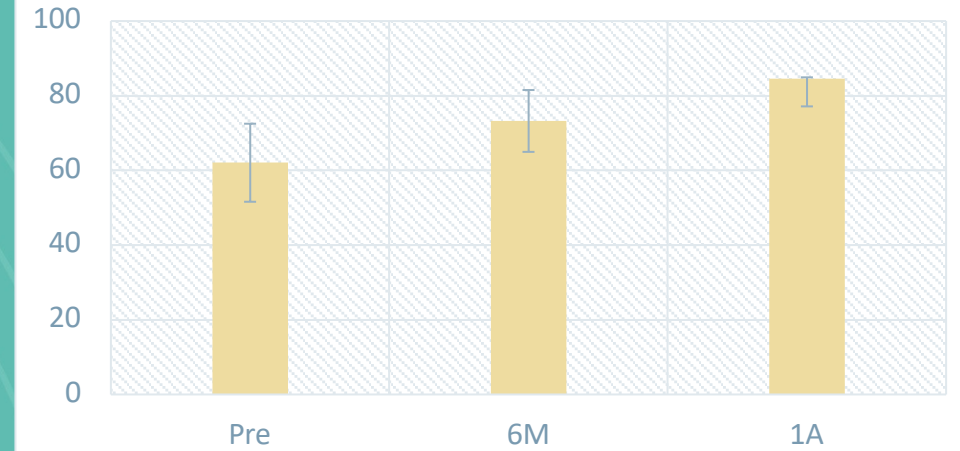
RESULTS

AOFAS

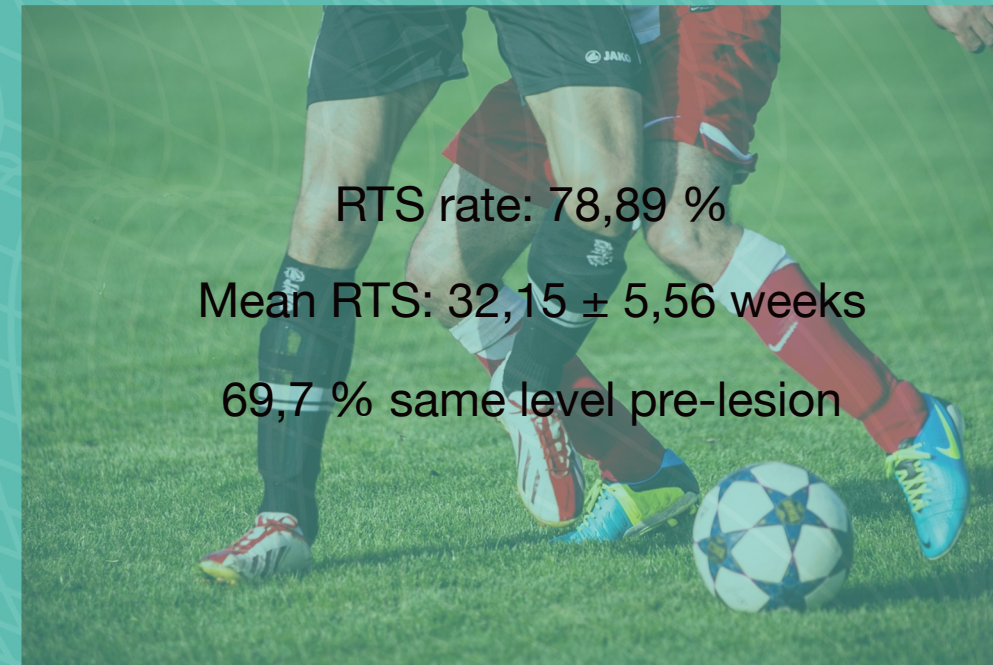
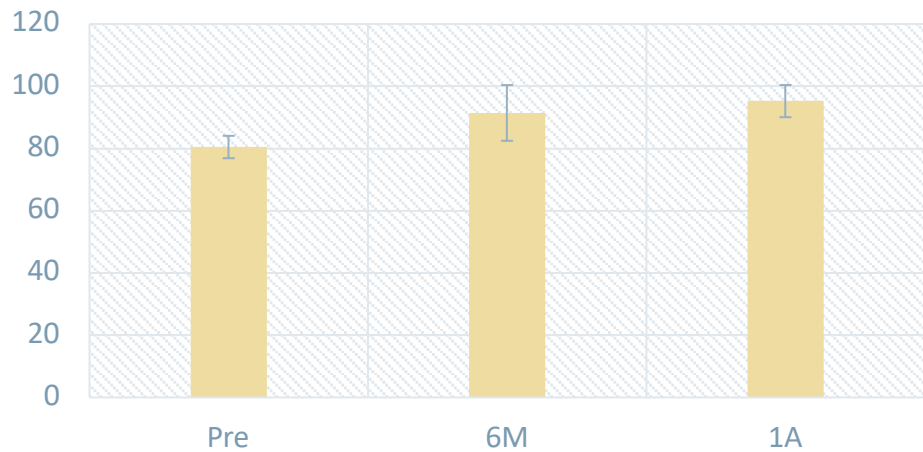


Test	pre	6m	1a	P value
AOFAS	71,89 (6,74)	75,86 (6,51)	85,04 (8,69)	< 0.05
VAS	5,88 (0,21)	3,20 (0,36)	2,00 (1,41 – 2,78)	< 0.05
FADI	62,06 (10,45)	73,25 (8,28)	84,50 (77,15 – 84,93)	< 0.05
Karlson	85,00 (76,88 – 84,07)	91,43 (8,96)	95,00 (90,07 – 100,40)	No sig.

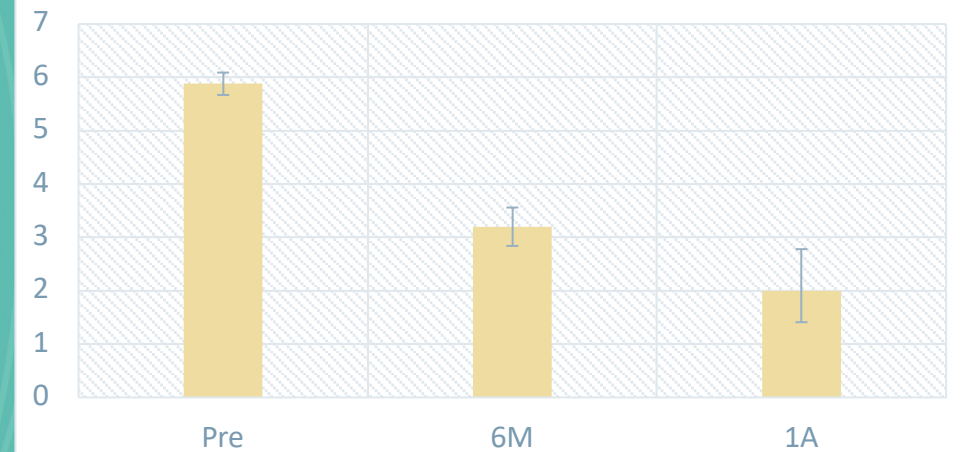
FADI



KARLSON

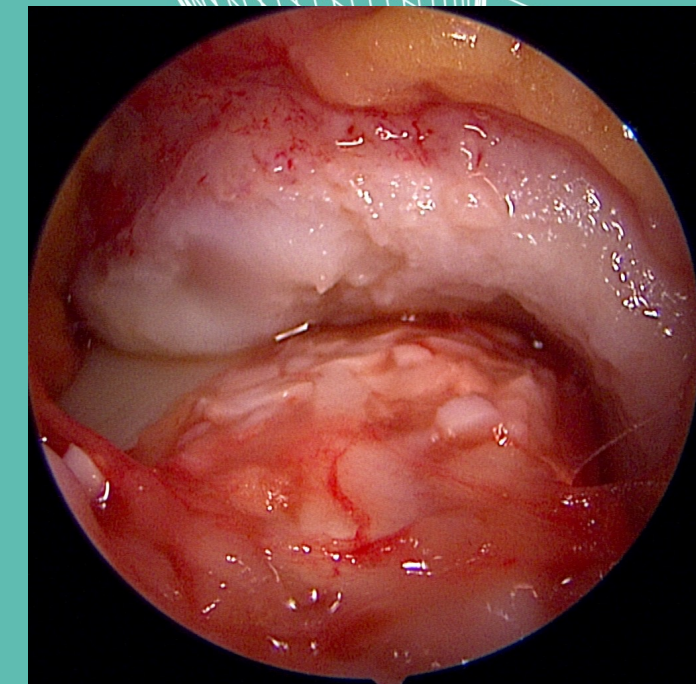
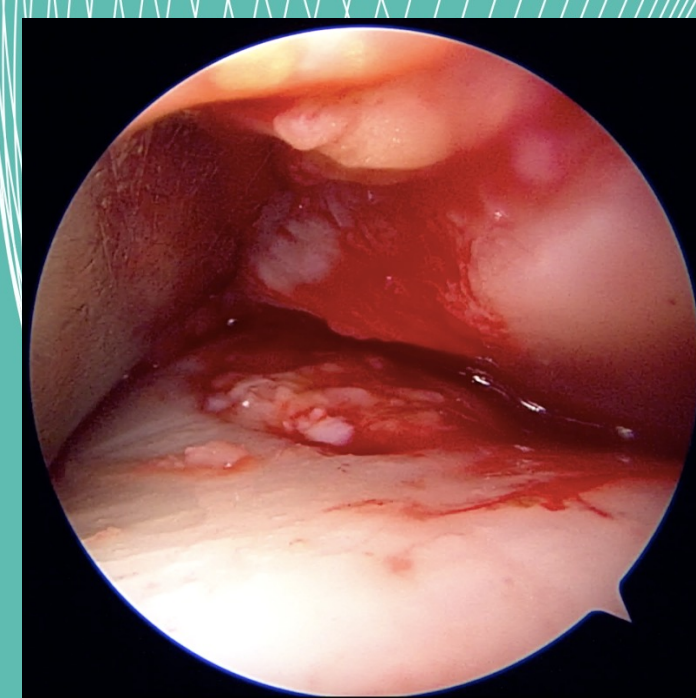


VAS



CONCLUSIONS

- The use of an autologous-made matrix using hyaline cartilage chips and platelet-rich plasma is a simple, effective, reproducible, and cheap technique compared to other techniques in the treatment of talar OCL.
- The results at 1 year follow-up are acceptable in terms of patient satisfaction and return to sport during follow-up.





ISAKOS
CONGRESS
2023



Boston
Massachusetts
June 18–June 21

 **Instituto Cugat** 



**MUTUALITAT
DE FUTBOLISTES**
Delegació Catalana



García Cugat Foundation • CEU-UCH Chair of Medicine and Regenerative Surgery
Chaire Fondation García Cugat • CEU-UCH de Médecine et de Chirurgie Régénérative
Càtedra Fundación García Cugat • CEU-UCH de Medicina y Cirugía Regenerativa

REFERENCES

- Cugat R, Samitier G, Vinagre G, Sava M, Alentorn-Geli E, García-Balletbó M, Cuscó X, Seijas R, Barastegui D, Navarro J, Laiz P. Particulated Autologous Chondral-Platelet-Rich Plasma Matrix Implantation (PACI) for Treatment of Full-Thickness Cartilage Osteochondral Defects. *Arthrosc Tech.* 2021 Jan 16;10(2):e539-e544. doi: 10.1016/j.eats.2020.10.038. PMID: 33680789; PMCID: PMC7917299.
- Cugat R, Alentorn-Geli E, Navarro J, Cuscó X, Steinbacher G, Seijas R, Álvarez-Díaz P, Barastegui D, Laiz P, Samitier G, García-Balletbó M. A novel autologous-made matrix using hyaline cartilage chips and platelet-rich growth factors for the treatment of full-thickness cartilage or osteochondral defects: Preliminary results. *J Orthop Surg (Hong Kong).* 2020 Jan-Apr;28(1):2309499019887547. doi: 10.1177/2309499019887547. PMID: 31835970.
- Cugat R, Alentorn-Geli E, Steinbacher G, Álvarez-Díaz P, Cuscó X, Seijas R, Barastegui D, Navarro J, Laiz P, García-Balletbó M. Treatment of Knee Osteochondral Lesions Using a Novel Clot of Autologous Plasma Rich in Growth Factors Mixed with Healthy Hyaline Cartilage Chips and Intra-Articular Injection of PRGF. *Case Rep Orthop.* 2017;2017:8284548. doi: 10.1155/2017/8284548. Epub 2017 Jul 17. PMID: 28798878; PMCID: PMC5535727.
- Domínguez Pérez JM, Fernández-Sarmiento JA, Aguilar García D, Granados Machuca MDM, Morgaz Rodríguez J, Navarrete Calvo R, Pérez Arévalo J, Carrillo Poveda JM, Alentorn-Geli E, Laiz Boada P, Cugat Bertomeu R. Cartilage regeneration using a novel autologous growth factors-based matrix for full-thickness defects in sheep. *Knee Surg Sports Traumatol Arthrosc.* 2019 Mar;27(3):950-961. doi: 10.1007/s00167-018-5107-z. Epub 2018 Aug 21. PMID: 30132050.

dbarasteguifdez@gmail.com



@davidbarastegui

2023