



5725 Two years clinical results of MACI for the treatment of knee cartilage lesions

Authors: I. Terzidis¹, A. Sideridis¹, E. Papacostas¹, K. Epaminontidis¹, V. Goyrgoylis², M. Hantes³, K.N. Malizos³
Institutions: ¹Pylaia, Thessaloniki/GR, ²Komotini/GR, ³Larisa/GR

Purpose: The purpose of this study is to present clinical results of MACI two years after the implantation for the treatment of knee cartilage defects

Methods and Materials: 14 patients were prospectively followed for of two years. They all underwent a matrix-induced autologous chondrocyte implantation (MACI) procedure for grade 4 knee cartilage lesions. IKDC subjective and KOOS scores were used for the clinical evaluation at certain time frames (preoperatively, 6 months, 1 and 2 years postoperatively)

Results: 11 male and 3 female patients with mean age of 27.78 (±8.8) years were operated for 19 lesions in total. Medial femoral condyle (7 lesions) was the most common site of injury followed by the patella (5 defects). IKDC improved significantly from baseline (Table 1) (p=0.02 from pre-op to 6 months post-op, p<0.001 from pre-op to 1 year, p<0.001 from pre-op to 2 years), with a trend of further improvement through time (p=0.04 from 6 months to 1 year, p=0.17 – not significant from 1 year to 2 years).

Time post-op	IKDC score
PreOp	42.2
6 months	61.0
1 year	75.4
2 years	83.6

Table 1. IKDC mean score improvement through time

Subscales of KOOS score were calculated (Table 2). Pain was significantly improved from baseline in all time frames, but not between 6 months and 1 year, and 1 to 2 years. Similarly, symptoms were significantly improved from preoperative values but not beyond the 6th month. ADL, Sports - Recreation and QoL subscales followed the same pattern of improvement: Significant improvement from baseline to 1 and 2 years, and from 6 months to 1 year. No other statistical significance between time frames was observed.

Time	PAIN			SYMPTOMS			ADL			SPORTS			QoL		
	Mean score	p-value (from baseline)	p-value (from previous value)	Mean score	p-value (from baseline)	p-value (from previous value)	Mean score	p-value (from baseline)	p-value (from previous value)	Mean score	p-value (from baseline)	p-value (from previous value)	Mean score	p-value (from baseline)	p-value (from previous value)
PreOp	67.29	n/a	n/a	62.21	n/a	n/a	69.71	n/a	n/a	34.64	n/a	n/a	29.5	n/a	n/a
Post-op 6 months	84.86	<u>0.04</u>	<u>0.04</u>	82.5	<u>0.04</u>	<u>0.04</u>	82.07	0.36	0.36	46.79	0.67	0.67	39.36	0.46	0.46
Post-op 1 year	90.29	<u>0.003</u>	0.06	84.86	<u>0.006</u>	1	91.21	<u>0.008</u>	<u>0.04</u>	72.5	<u>0.002</u>	<u>0.01</u>	63.07	<u><0.001</u>	<u>0.03</u>
Post-op 2 years	94.57	<u>0.002</u>	1	87.07	<u>0.01</u>	1	95.21	<u>0.005</u>	0.95	74.29	<u>0.008</u>	1	67.07	<u><0.001</u>	1

Conclusion: MACI is a procedure with short-term good clinical results for knee cartilage defects

Table 2. Mean score improvement of 5 different KOOS subscales through time. Underlined are the p-values with statistically significant difference (p<0.05)