

5-Year European Multicenter Study Shows Improved Function and Significant Pain Reduction after Treatment of Irreparable Partial Meniscus Defects with a Polyurethane Scaffold

Presented at The 4th International Meniscus Meeting, 31 January -2 February 2019, Bologna, Italy

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Background

Meniscal tears are frequent injuries, and it is agreed that meniscal damage plays an important role in the development and progression of early osteoarthritis with associated symptoms and functional deficiencies. Joint preservation with meniscal repair or regeneration has become a preferred treatment concept.

Objective

To evaluate the clinical performance of a polyurethane scaffold (Actifit®, Orteq Ltd.) for the treatment of irreparable partial meniscus defects.

Patient Demographics

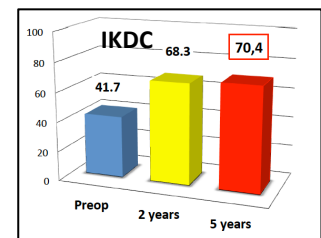
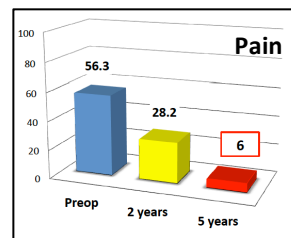
155 patients (109 M, 46 F, average age 33.7±10.4 years) were treated with a meniscal scaffold. The average defect size was 39.4±10.5mm. 18 patients were lost to follow-up (11.6%): 5 at 2 years (3.2%) and 13 at 5 years (8.4%). Outcome data of 137 patients were available for analysis (88.4%).

KOOS

	Preop	2 years	5 years
— Symptoms	56.1	80.0	76.1
— Pain	54.5	76.9	75.7
— Function	61.5	81.8	79.4
— Sports	28.8	61.4	51.0
— QoL	30.8	55.0	54.3

Results

Implantation of a meniscal scaffold resulted in improved knee joint function and significant pain reduction in patients with segmental meniscus deficiency over the course of 5 years after implantation. Clinical outcomes were stable between 2 and 5 years of follow-up. Patients with malalignment and meniscal deficiencies achieved similar results when treated concomitantly with HTO and meniscal scaffold.



	HTO (n= 22)	No HTO (n= 92)	P values
VAS	15.9 ± 17.2	15.2 ± 19.9	0.44
Lysholm	83.5 ± 19.3	85.6 ± 21.5	0.37
IKDC subjective	75.2 ± 19.5	71.3 ± 22.3	0.24
KOOS symptoms	78.8 ± 18.6	78.0 ± 20.1	0.44
KOOS pain	75.9 ± 18.1	79.0 ± 22.2	0.34
KOOS ADL	78.8 ± 16.8	82.9 ± 22.1	0.29
KOOS sports	58.0 ± 24.4	52.9 ± 33.1	0.32
KOOS QoL	54.5 ± 22.0	56.7 ± 12.1	0.41

Conclusion

Corrective and regenerative procedures play an important role in joint preservation surgery. Meniscus regeneration with a polyurethane scaffold achieved significant 5-year clinical improvements in patients suffering from substantial meniscal deficiencies.

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