

Clinical Results of a Novel Fresh Osteochondral Allograft for Focal Articular Cartilage Defects



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PURPOSE

Despite improvements in treatment, articular cartilage lesions continue to be a major source of pain and disability. Current treatment options include microfracture, osteochondral allograft, autologous chondrocyte implantation and others. A recently developed fresh osteochondral allograft, ProChondrix® (AlloSource®, Centennial, CO, USA), has become available for implantation and treatment of articular cartilage lesions. This graft contains extracellular matrix, native growth factors and viable chondrocytes. We have previously published early results and this study follows the same population out to three years. The purpose of this study is to evaluate the early results of a novel fresh osteochondral allograft on isolated articular cartilage defects.

METHODS & MATERIALS

This was a prospective case series. 17 patients underwent treatment of an isolated, symptomatic articular cartilage surface lesion. Lesions were treated with microfracture followed by placement of a ProChondrix graft which was subsequently anchored and covered with fibrin glue. Demographic and intra-operative data was recorded as well as pre- and post-operative International Knee Documentation Committee (IKDC), Short Form-36 (SF-36), Knee Injury and Osteoarthritis Outcome Score (KOOS), Visual Analogue Scale (VAS) and Tegner scores. Pre- and post-operative data were compared with paired t-tests. An alpha value of 0.05 was set as significant. Data collection was performed pre-operatively as well as at 6, 12, 24, and 36 months post-operatively.

RESULTS

There were two failures that required revision surgery. At a mean follow up of 2.33 years (6 - 43 months), a statistically significant increase was seen in the following KOOS domains: Symptoms (+24.7, p=.001), Pain (+28.4, p<.001), Function in Daily Living (+24.8, p=.002), Function in Sports and Recreation (+51.2, p<.001), Quality of Life (+38, p=.001), and Overall (+29.1, p=.004). A statistically significant improvement from baseline was also seen in the SF-36 domains: Physical Functioning (+35.6, p=.002), Energy/Fatigue (+13.0, p=.009), Emotional Well Being (+7.71, p=.02), Social Functioning (+21.0, p=.009), and Bodily Pain (+31.3, p=.004). In addition, VAS score decreased from 5.98 to 1.29 (p<.001), subjective IKDC scores increased from 37.60 to 65.81 (p=.003), and Tegner scores increased from 1.16 to 5.41 (p=.005).



Pre-Op



6 mo. Post-Op

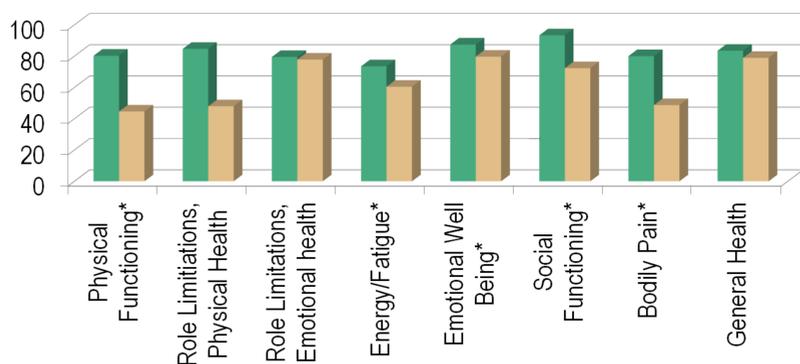
CONCLUSION

Treatment of articular cartilage lesions with a novel fresh osteochondral allograft (ProChondrix®) continues to demonstrate promising short term results out to 3.5 years.

SF-36 OUTCOME SCORES

*Denotes statistical significance

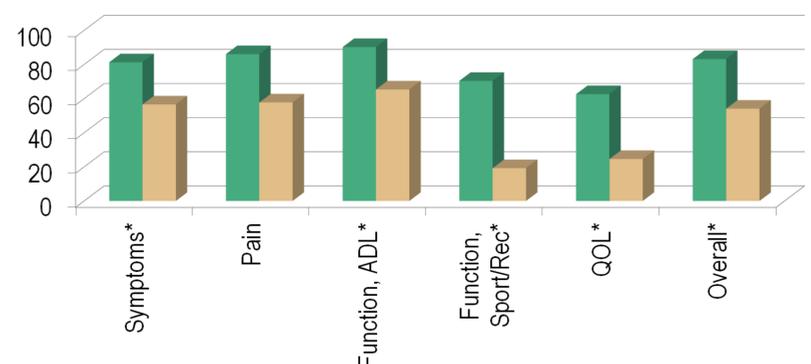
■ Average Post-Op Score ■ Average Pre-Op Score



KOOS OUTCOME SCORES

*Denotes statistical significance

■ Average Post-Op Score ■ Average Pre-Op Score



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>Disclosures:

a. Arthrex - Consultant

b. Stryker - Consultant

c. AlloSource - Consultant, Scientific Advisory Board member, provided financial support for this study

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>No disclosures

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>No disclosures

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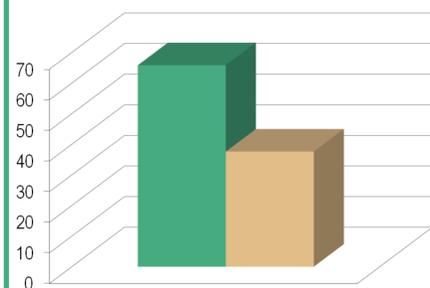
ICRS

International Cartilage Regeneration & Joint Preservation Society

SUBJECTIVE IKDC SCORES*

*Denotes statistical significance

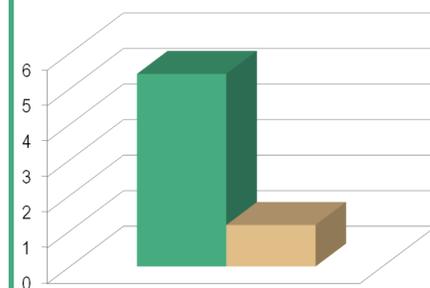
■ Average Post-Op Score ■ Average Pre-Op Score



TEGNER SCORES*

*Denotes statistical significance

■ Average Post-Op Score ■ Average Pre-op Score



VISUAL ANALOGUE SCALE SCORES*

*Denotes statistical significance

■ Average Post-Op Score ■ Average Pre-Op Score

