

## Fresh Osteochondral Allografting for Bipolar Reciprocal Osteochondral Lesions of the Knee

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### Summary:

Fresh osteochondral allograft transplantation is a useful salvage treatment option for reciprocal bipolar cartilage lesions of the knee.

### Abstract:

#### INTRODUCTION

Chondral lesions in the knee are common and potentially debilitating problems. Large or complex chondral or osteochondral lesions in particular present a difficult clinical challenge with few restorative treatment options. Failure is more common for bipolar, reciprocal ("kissing") chondral lesions, which constitutes a relative contraindication to these particular cartilage repair procedures. Osteochondral allograft (OCA) transplantation has been recommended in recent treatment algorithms for reconstruction of complex osteochondral defects of the knee.

#### OBJECTIVES

To evaluate outcomes of patients who have undergone osteochondral allograft transplantation for reciprocal bipolar cartilage injuries ("kissing lesions") of the knee.

#### METHODS

Fresh osteochondral allografts were implanted for bipolar chondral lesions in 46 patients (48 knees) between 1983 and 2010. Twenty-one males and 25 females averaged 40 years of age (range, 15-66 years). Thirty-four lesions were tibiofemoral and 14 patellofemoral. Forty-two patients (88%) had an average of 3.4 previous surgeries (range, 1-8). Mean allograft area was 19.2 cm<sup>2</sup>. Clinical evaluation included the modified Merle d'Aubigné-Postel (18-point), International Knee Documentation Committee (IKDC) pain and function, and Knee Society function (KS-F) scores. Further surgeries on the operative joint were documented. Failure of the bipolar OCA was defined as revision OCA or conversion to arthroplasty.

#### RESULTS

Survivorship of the bipolar OCA was 64.1% at 5 years. Thirty knees had further surgery; 22 knees (46%) were considered failures (3 OCA revisions, 14 total knee arthroplasties, 2 unicompartmental arthroplasties, 2 arthrodeses, and 1 patellectomy). Among patients whose OCA was still in situ at follow-up, the mean follow-up was 7 years (range, 2-19.7 years). The mean 18-point score improved from 12.1 to 16.1; 88% (23 of 26 knees) were considered successful with a score =15. The mean IKDC pain score improved from 7.5 to 4.7 and the mean IKDC function score improved from 3.4 to 7.0. The mean KS-F score improved from 70.5 to 84.1.

#### CONCLUSIONS

We conclude that OCA transplantation is a useful salvage treatment option for reciprocal bipolar cartilage lesions of the knee. A high reoperation rate was observed, but successful outcome was associated with significant clinical

# ISAKOS

**International Society of Arthroscopy, Knee Surgery and  
Orthopaedic Sports Medicine**

10<sup>th</sup> Biennial ISAKOS Congress • June 7-11, 2015 • Lyon, France

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**Paper #68**

improvement.