Humeral Head Osteochondral Allograft Transplantation

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Background:

The incidence of humeral head osteochondral defects continues to rise, especially in the setting of shoulder instability. The optimal treatment is still controversial. Humeral head osteochondral allograft transplantation is a viable surgical option that has been gaining popularity. It is bone preserving and particularly favorable for younger patients. This technique restores the congruity of the humeral head, improving pain and function, while preserving more bone than other surgical options such as arthroplasty.

Purpose:

This video overview and case presentation demonstrates osteochondral allograft transplantation with a fresh humeral head allograft for treatment of an osteochondral defect due to anterior shoulder instability.

Methods:

The etiology, examination, diagnosis, and treatment options for humeral head osteochondral defects are reviewed. A case of a 21-year-old male with a 25mm osteochondral defect is presented. This injury occurred after a traumatic anterior shoulder dislocation that required formal reduction in the emergency room and then one subsequent dislocation. After failure of non-operative treatment and a thorough discussion of risks, benefits and prognosis, the patient elected to proceed with humeral head osteochondral allograft transplantation with fresh humeral head allograft to improve his pain and functional status.

Results:

The allograft transplantation surgery was uncomplicated, and the humeral head congruity was restored intraoperatively. Post-operative clinical outcome showed improved range of motion, pain, and stability.

Conclusion:

Humeral head osteochondral allograft transplantation is a viable surgical option for symptomatic osteochondral defects that have failed non-operative treatment. This treatment can offer a bone preserving surgical option for younger patients. Appropriate patient selection and adherence to post-operative rehabilitation are crucial for optimal outcomes.