Non-operative Management of Posterior Shoulder Instability: An Assessment of Survival and Predictors for Conversion to Surgery at 1 to 13 Years After Diagnosis

Jarret Murray Woodmass, MD¹, Julia Lee, MD², Nick R. Johnson, BS³, Christopher L. Camp, MD³, Diane L. Dahm, MD³, Aaron John Krych, MD³

¹Boston Shoulder Institute, Boston, MA, USA, ²Sierra Pacific Orthopedics, Fresno, CA, USA, ³Mayo Clinic, Rochester, MN, USA.

Objectives: Among patients treated non-operatively for 1 year following a diagnosis of posterior shoulder instability (PSI), little is known about the the incidence of surgery between 1-13 years after injury. The purpose of this study is to define the frequency and evaluate the factors predictive for late surgical intervention of symptomatic PSI.

Methods: This study included a population-based cohort of 115 patients (14 females, 101 males) diagnosed with PSI between January 1994 and July 2012 with a minimum 5-years follow-up (mean:13.9 years; range: 5-23 years). Landmark survival analysis was performed to evaluate incidence of surgery after 1 year. Survival was estimated using Kaplan Meier method and predictors of late surgical intervention were analyzed using Cox proportional hazards regression.

Results: A total of 61/115 (53%) patients were treated non-operatively for 1 year following diagnosis of PSI. Of these, 24/61 (39%) converted to surgery for symptomatic PSI. The overall survival free of surgery at 1 and 5 years was 53.0% (95% CI 43.7-63.0) and 37.1% (95% CI 29.1-47.1), respectively. BMI >35 (p=0.04, HR 3.3) was predictive for late conversion to surgery. Age, gender, occupation, or history of glenohumeral dislocation were not significant. Assessing surgery as a time dependent covariate, a patient undergoing surgery was at an increased risk for radiographic progression of osteoarthritis (p=0.02, HR=4.0, 95% CI 1.2-13.2).

Conclusion: Conservative management was performed for at least one year in over half of patients diagnosed with PSI. However, long-term follow-up demonstrates that nearly 40% of these patients eventually require surgery. Increased BMI was predictive for late failure of while age, gender, history of dislocation and occupation did not show an effect. Patients who underwent surgery were at an increased risk of radiographic progression of arthritis.

The Orthopaedic Journal of Sports Medicine, 6(7)(suppl 4)

DOI: 10.1177/2325967118S00098

©The Author(s) 2018