ABSTRACT

Background and Purpose: The return to play percentage of baseball pitchers who have undergone isolated superior labrum anterior-posterior (SLAP) repair has been reported to be less than 60%. Scapular dyskinesis (SD), characterized by scapular prominence during dynamic scapulohumeral movements, may be used to assist in diagnosing a baseball pitcher with shoulder pathology including a SLAP lesion. The purpose of this case report was to describe the use of the SD test to assess the scapular muscles and report EMG findings in a college baseball pitcher diagnosed with a Type 2 posterior SLAP lesion.

Case Description: The subject was a NCAA-D1 senior collegiate baseball right hand 3/4 slot pitcher (21 years old) with a primary complaint of pain in the anterior portion of the shoulder during the entire fall practice season, which was attributed to labral surgery performed when he was a senior in high school. No positive clinical testing of the patient was found including: the sulcus sign, tests of gross instability, and the load & shift test. A Type II posterior SLAP lesion was identified via magnetic resonance imaging. The subject presented with glenohuemral internal rotation deficit (GIRD). The SD test identified moderate to severe prominence of scapular medial boarder in shoulder flexion/extension (FLX/EXT). Furthermore, surface EMG analyses indicated that the lower trapezius (LT) muscle was abruptly inhibited on the dominant side during the descending phase of FLX, compared with the non-dominant side. Additionally, a remarkably higher ratio of upper trapezius to LT muscle EMG activity on the dominant side compared to that of the non-dominant side was identified during the descending phase from flexion.

Discussion: After identification of SD, an off season conservative treatment program allowed him to compete in his last college baseball season, appearing 22 times out of the bullpen in which he was credited four wins with a 3.70 earned run average (ERA) in 41.1 innings in 57 games. The SD test may play a critical role in identifying rehabilitation potential and guide the focus of the rehabilitation program to improve scapulothoracic stability and mobility for unilateral repetitive overhead athletes. Particularly the descending phase during sagittal plane motion (FLX/EXT) may effectively accentuate the scapular prominence during movement, portentially due to LT muscle activity inhibition.

Level of Evidence: 5 Case Report

Keywords: EMG activity, lower trapezius muscle, scapular dyskinesia, Type II SLAP lesion

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The authors report no conflicts of interest.

Acknowledgement: The authors of this study appreciate Yusuke Takahashi, MA, ATC for collaborating on this study from the standpoint of athletic training service.

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