

Measurement tasks were held at 0 degree and 30 degrees of shoulder flexion for 5 seconds. R-muscle value (the ratio of muscle activity to the change of the moment load) between 0 and 30 degrees was calculated. For statistical tests, one-way ANOVA and Tukey-HSD multiple comparison tests were performed.

**Results:** The R-muscle value of the upper trapezius was significantly higher in the I-group than in the healthy group ( $p<0.05$ ). The R-muscle value of middle trapezius was significantly higher in the I-group than in the P-group ( $p<0.01$ ).

**Conclusion:** Muscle activity of the upper and middle trapezius in the I-group was higher from the initial stage of elevation of the upper limbs.

#### COMPARISON OF CLINICAL OUTCOMES AFTER BRISTOW AND LATARJET PROCEDURES FOR ANTERIOR SHOULDER INSTABILITY IN COLLISION ATHLETES

*Makoto Tanaka, Kenji Hayashida, Department of Orthopaedic Surgery, Osaka Police Hospital, Osaka, Japan*

The coracoid procedure is a reliable method for the management of recurrent anterior instability in collision athletes. This study

compares the rate of bone integrity and bone resorption of the coracoid process, and the clinical outcomes after the Bristow procedure in 61 shoulders and the Latarjet procedure in 44 shoulders with at least one year of follow-up. CT scans showed 98% of bone union of the coracoid process within 3 months after the Latarjet procedure, but only 78% of bone union, 15% of delayed union, and 7% of fracture of the coracoid in the Bristow procedure, 6 months after surgery. Bone resorption of the coracoid process occurred in 6.3% of shoulders that underwent the Bristow procedure and the degree of bone resorption was mild. However, 100% of shoulders subjected to the Latarjet procedure showed bone resorption, and 62% of bone resorption was a severe degree. In the Bristow procedure, one out of 4 cases with coracoid fracture showed recurrent subluxation and required revision surgery. In the Latarjet procedures, one case with bone union showed recurrent subluxation and required revision surgery, and 4 patients showed apprehension, although they were able to continue playing rugby. Persistent pain after return to sports, which required the injection of corticosteroid, was recognized in 2 shoulders (3%) which had been subjected to the Bristow procedure and 10 shoulders (23%) subjected to the Latarjet procedure. The apprehension and pain after returning to sports were recognized more frequently in patients who underwent the Latarjet procedure.

