Trapeziectomy with Suture versus Suture Button Suspensionplasty for Thumb Carpometacarpal Joint Osteoarthritis – A Cohort Analysis

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INTRODUCTION: Symptomatic thumb carpometacarpal (CMC) joint osteoarthritis is often treated with trapeziectomy. This study's primary objective is to compare two techniques for suspensionplasty following trapeziectomy for CMC arthritis, the suture button and suture suspensionplasty technique relative to clinical and radiographic outcomes. The study hypothesis was that suture and suture button suspensionplasty will have similar clinical and radiographic outcomes.
METHODS: Data was collected on 42 patients at a minimum of 1 year post-operatively following trapeziectomy with suture suspensionplasty and suture button suspensionplasty for symptomatic Easton stage III-IV CMC osteoarthritis. Outcomes were measured using the Quick Disabilities of the Arm, Shoulder, and Hand (qDASH) questionnaire, Visual Analogue Scale (VAS) for pain, radiographic analysis of subsidence, and physical examination of lateral pinch strength and thumb opposition.
RESULTS:
Radiographs demonstrated 42% of trapezial space was maintained in the suture suspensionplasty group relative to 50% of trapezial space maintained in the suture button suspensionplasty group (p=0.006). Median post-operative qDash scores were to 3.41 [0;15.9] and 0 [0; 10] in the suture and suture button groups (p=0.036), both of which are similar to normative values in the population. Median post-operative VAS scores were 0 [0;0] in both groups (p=0.502). Post-operative thumb opposition was no different between groups (p=0.563). Post-operative pinch strength was 5.89 kg (1.79) and 5.77 kg (3.15) in the suture and suture button groups, respectively (p=0.895).
DISCUSSION AND CONCLUSION: At a minimum of one year post-operatively, patients that underwent trapeziectomy with suture button suspensionplasty had improved subsidence and qDASH scores, but similar thumb range of motion and strength. Though statistically different, these differences likely do not represent a meaningful clinical difference between techniques.