

The Bicipital Stress Test (BST): A maneuver to more accurately diagnose bicipital tendinitis and its referred pain patterns

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Biography

Meredith Thomley is a third-year medical student at the University of Alabama School of Medicine, interested in academic medicine. Her published research has primarily been in analyzing dermatologic journal impact through the Altmetric Attention score, as well as various ophthalmologic pathologies. She believes the cornerstone of excellent patient care to be in thorough history taking and proper physical exam utilization.

Abstract

Statement of the Problem: Inflammation of the bicipital tendon contributes heavily to shoulder joint morbidity. To date, diagnosis of bicipital tendinitis has relied on physical exam findings, particularly Yergason's sign and the Speed's Test (ST). These tests have fallen out of fervent use due to their relative insensitivity. In this study, we introduce a novel diagnostic paradigm, the Bicipital Stress Test (BST), with improved sensitivity in comparison to previously standard tests. **Methodology & Theoretical Orientation:** This retrospective cohort study reviewed 151 patients over a six-month period. Patients were included who presented with upper body pain and whose exam demonstrated a positive ST and/or BST. Given a positive test, a treatment paradigm of 40-60 mg depomedrol, 1.0 cc bupivacaine hydrochloride, and 0.5cc lidocaine was utilized. Patients were reevaluated at four to six-week intervals for clinical improvement. **Findings:** The BST identified 248 positive upper extremities versus 71 for the traditional ST test. In every case that the ST test was positive, the BST was also positive. Of the 151 patients, 80% reported complete resolution of symptoms: 32% after one treatment, 38% after two, 10% after three. 3% reported partial resolution, and the remainder of patients were lost to follow up. Additionally, 64% of patients reported sites other than the shoulder as their initial site of pain. **Conclusion & Significance:** Physical examination techniques of the upper extremity have been described but are infrequently utilized in clinical practice; this is due to the relative insensitivity of the most well-known tests for bicipital tendinitis, Yergason's sign (43%) and the ST (32%). The BST is a more sensitive test in diagnosing bicipital tendinitis. The clinical validity of the BST is supported by normalization of the physical exam and improvement in symptomatology following treatment of a positive test. Implementation of the BST yields early detection, accurate diagnosis, and successful treatment of bicipital tendinitis and its referred pain patterns. **Figure 2:** log differences in CFU counts (Mean \pm SEM) of *S. typhimurium* at different time intervals (6, 12 and 24 h) against the initial microbial populations ($\sim 10^7$ cells/ml). LR: *Lactobacillus rhamnosus* GG (NCDC 347); ST: *Salmonella typhimurium* (ATCC 14028); CTL: Control Mono-culture; CC: Co-culture; G: D-glucose; T: D-tagatose; B: basal medium without carbon

