

Abstract

Title:

Ultrasonographic comparison of the size of the cross-sectional area of the long head biceps brachii tendon in overhead athletes and non-competitive women

Aims:

This study aimed to compare the cross-sectional area (CSA) size of the long head biceps tendon (LHBT) and the prevalence of positive functional tests for LHBT lesions in volleyball and handball players compared to a control group of young, non-sporting women. This study aims is to determine whether overhead female athletes, specifically female handball and volleyball players, experience a reduction in the size of the cross-sectional area of this tendon due to many years of regular sports activity. Furthermore, This study aims to determine the prevalence of positive functional tests for LHBT in both groups and subsequently to confirm or refute the correlation between a possible reduction in the size of the CSA of the biceps long head tendon in female overhead athletes and the positivity of functional tests.

Methods:

This research is an observational experiment. Theoretical knowledge was drawn from available Czech and foreign literature sources written in Czech, English and German. 39 probands selected based on selection and exclusion criteria participated in the experimental part of the research. According to the set research criteria, the probands were divided into two groups, the experimental group, including overhead athletes, and the control group, including a sample of young women. The size of the CSA long head biceps tendon was assessed in both upper limbs using musculoskeletal (MSK) ultrasonography. Functional tests for the LHBT lesion included Speed's test, Yergason's test, and Uppercut test.

Outcomes:

Overhead female athletes do not have significantly less CSA LHBT than the control group. In contrast, CSA LHBT is significantly greater in female athletes compared to the general population of young women. There is no significant difference in CSA LHBT

between dominant and non-dominant upper limbs in overhead female athletes. Overhead female athletes had a significantly higher prevalence of positive functional tests for LHBT lesions on both upper limbs compared to the control group. To date, no correlation has been observed between a positive functional test for LHBT lesion and a reduction in LHBT CSA among overhead female athletes.

Key words:

long head biceps tendon, sonography, cross-sectional area, functional tests, shoulder, overhead athletes