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Asymmetry of Lean Body Mass Accumulation in 12-year-old Tennis Players. (Preliminary Results)

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Tennis is a sport characterized by high physical activity and frequently repeated motions, especially for the dominant upper limb. This creates differences between upper limbs and lead to an asymmetric distribution of muscle mass and unbalanced muscle tonus.

The aim of the study is to estimate the degree of muscle mass asymmetry between the dominant and non-dominant limbs in young Bulgarian tennis players, using multi-frequency bioelectrical impedance measurements. The study sample includes 14 male tennis players and 11 school children aged 12 years. Segmental analysis of body composition was done by bioelectrical impedance analyzer (model: InBody 170). The athletes have a larger muscle mass of the dominant upper limb compared to the non-dominant. The non-athlete boys are characterized with lower asymmetry coefficient level of the upper limbs' muscle mass compared to the tennis players ($p < 0.05$). The significant relationship between asymmetry coefficients of the upper limbs, mean age and years of training experience in tennis players are not found.

Key words: asymmetry, bioelectrical impedance, muscle mass, body composition, Bulgarian tennis players