

Sarcopenia in Ukrainian Older Women

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Abstract: Introduction. Sarcopenia is been defined as an age-related reduction in muscle mass, strength and performance. Muscle mass peaks by fourth decade and then decreases at the rate of 1% after the age of 50 years. Prevalence of sarcopenia varies widely (5-70%) according to age, sex, ethnicity and the criteria used for its definition [Cruz-Jentoft A.J. et al., 2010; Marwaha R. et al., 2014].

The aim of this study was to evaluate the frequency of sarcopenia in the healthy Ukrainian women.

Materials and methods. 390 women aged 20-87 years (mean age – 57.50±15.99 years) were examined. All subjects were free of systemic disorders and obesity, and were not taking medications known to affect the skeletal and muscle metabolism. The lean and fat masses were measured by the DXA method (Prodigy, GEHC Lunar, Madison, WI, USA). Appendicular skeletal mass (ASM) was measured at all the four limbs with DXA. We've also calculated the appendicular skeletal mass index (ASMI) according to the formula: ASM/height (kg/m²). Low muscle mass values conform to the following definitions: European guidelines (ASMI <5.5 kg/m²) (EWGSOP, 2010), less than 20% of sex-specific normal population and two SD below the mean of the young adult Ukrainian females (20-39 yrs). We also assessed handgrip strength and measured gait speed. The sarcopenia was determined using EWGSOP-suggested algorithm. "Statistika 6.0" © StatSoft, Inc. was used for data processing purposes. Significance was set at p<0.05.

Results. The ASMI values corresponding to a cutoff of low muscle mass by the definitions used were as follows: <5.5 kg/m² (European guidelines), <5.7 kg/m² (<20th percentile of sex specific population), <4.8 kg/m² (two SD below the mean of young Ukrainian females aged 20-39 yrs). The frequency of low muscle mass in women aged 65 yrs and older based on the above three criteria was 12%, 16% and 1.7%, respectively. The frequency of sarcopenia increased with age: in women 50-59 yrs – 5.1%, 60-69 yrs – 3.7%, 70-79 yrs – 18.4%, 80-80 yrs – 30.8%. The mean frequency of sarcopenia in women aged 65 yrs and older was 21.3%.

Conclusion. The cutoff value of ASMI (<4.8 kg/m²) defined as two SD below the mean of reference young population was lower in this study compared with the Rosetta Study (<5.5 kg/m²). As for the sex specific cutoff (ASMI <5.7 kg/m²), this index was similar to the data of the Health ABC study (<5.67 kg/m²) (EWGSOP, 2010). The mean frequency of sarcopenia in Ukrainian older women was 21.3%.

Key words: sarcopenia, women, age