Interleukin (IL)-6 and alpha1-antichymotrypsin (ACT) serum variations in sarcopenic and non-sarcopenic Iraqi subjects: A biochemical approach for diagnosis

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Abstract

Background & Aim: Older age is usually accompanied by functional decline due to loss of skeletal muscle mass and quality. Sarcopenia and muscle frailty are both highly relevant entities with regards to functionality and autonomy of older adults. European Working Group on Sarcopenia in Older People (EWGSOP) founded in 2009 has put the main criteria for clinical diagnosis of sarcopenia including the following domains: Physical performance, Muscle strength and /or Muscle mass. Sarcopenia is also associated with modifications in biological functions, including inflammation, glucose, regulation, hormone production, cellular, communication and protein storage. However, no laboratory guidelines' have yet been established for confirmatory testes of the diagnosis. The aim of the present work is to shed a light on the variations of some inflammatory markers in a group of sarcopenic Iraqi patients and to aid in the clinical diagnosis of the disease.

Subjects & Methods: The study included (100) sarcopenic subjects (50 male and 50 female) and (50) non sarcopenic subjects (25 male and 25 female). Information were taken from each subject (age, gender, patients with inflammatory disease (rheumatoid arthritis systemic lupus erythematosus (SLE)), diabetes mellitus, thyroid disease and patients taking steroid therapy were excluded. Subjects with primary sarcopenia were diagnosed by**:** Short Physical Performance Battery (SPPB) and dual-energy X-ray absorptiometry (DEXA) to determine (Appendicular skeletal muscle mass (ASM), Total lean body mass (TLBM) and Body Mass Index (BMI)). There are two methods used in the study process, 1-Clinical diagnostic measurements: Physical performance: Short Physical Performance Battery (SPPB), Muscle strength: hand grip. 2-Biological markers (in serum): Markers of inflammation: interleukin (IL)-6, alpha1-antichymotrypsin (ACT).

Results: Mean values of (α1ACA) in control group were more than study group and men more than women and their mean values were decreasing with aging. While (IL-6,) mean values in study group, were more than control group and in women more than men except BMI in male more than female and values increase with increasing age.

Conclusions: Mean values of (α1ACA) in control group were more than study group and in women less than men because sarcopenia is defined as a reduction in ASM/height^2, and total lean body. Alpha 1-antichymotrypsin has a direct relation with ASM. While (IL-6,) have indirect relation with ASM and α1ACA. So, clinical variables values were increased: with age, in study group more than control group in women more than men.

Biography

Prof. Dr. Hedef El-Yassin was pursuing as faculty in University of Baghdad in the Department of Biochemistry and in College of Medicine. He has much publication and in reputed journals attended in National conferences

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