An association between patterns of inflammatory cytokines in development of frailty status and cardiometabolic disease

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Introduction: The elderly population is increasing because of increasing life expectancy, and the prevalence of frailty increases with age. There are many observational studies which showed strong association between frailty status and cardiometabolic diseases, and chronic inflammation is a major force driving the development of cardiometabolic diseases in those patients. Based on recent developments in understanding of age-related inflammation as a whole-body response, we discuss the negative effect of frailty status on cytokine IL-37, which is emerging as a strong natural suppressor of the chronic innate immune response.[1-3]

Patients and Methods: The study was performed in primary care settings and included 170 older individuals with T2D and comorbidity. Participants were described by variables that included sociodemographic characteristics, anthropometric measures, comorbidities, medications, frailty, nutritional status, markers of inflammation, and laboratory tests indicating metabolic status and renal function.

Results: Participants were mostly 50 years old or more, and women participated more than men. They were primarily overweight/obese, most of them also had metabolic syndrome and arterial hypertension. No individuals had severe sarcopenia. Frailty was shown to have a suppressive effect on IL-37 circulating levels and a modifying role in associations of metabolic and inflammatory factors with IL-37, including the effect of treatments.

Conclusion: Assessment of nutritional status may help stratify the risk of cardiovascular events and encourage improvements in nutritional status of elderly people. In that way, we need better integration and understanding of both cardiometabolic diseases and frailty status, because they share common pathophysiological mechanism of chronic inflammatory status. At the same time, prevention of cardiometabolic diseases should be taken as a factor in reducing the healthcare utilization and expenditures.

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LITERATURE

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