

**DEPARTMENT OF RHEUMATOLOGY AND NEPHROLOGY**

**171. SARCOPENIA ON PATIENTS WITH AUTOIMMUNE DISEASES**

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**Introduction.** The European Working Group on Sarcopenia in Older People(EWGSOP) developed a clinical definition for sarcopenia as a syndrome which affects at the same time muscle mass, muscle strength and physical function. Sarcopenia appears from the imbalance between the hormonal and immunological changes that occur during the aging process. The autoimmune diseases cause the appearance of sarcopenia by increasing cytokines (TNF-  $\alpha$  tumor necrosis factor and IL-6 interleukin-6, which play an important role in the loss of muscle mass) and inflammation in the body.

**Aim of the study.** The Aim of this study is to evaluate the sarcopenia of the patients with the autoimmune disease from rheumatology department.

**Materials and methods.** A prospective, pure observational and non-interventional study was conducted which included 17 patients with autoimmune diseases admitted in the rheumatology department of Country Hospital of Targu Mures, Romania. The muscle mass was evaluated ultrasonographic for a 5-day period (day 1 and day 5) at biceps brachii (BB) and rectus femoris (RF) muscles, the physical function was evaluated with 400 meter walk test (sarcopenic if  $<0,8\text{m/s}$ ) and the muscle strength was evaluated with chair stand test (sarcopenic if  $>15\text{s}$ ) which measures the time needed for every patient to rise and seated for five times. The SarQoL questionnaire was used to assess quality of life of sarcopenic patients. The statistical analysis was assessed with GraphPad Prism 6 and Microsoft Office Excel package.

**Results.** The mean age of the patients were 55 years old. The autoimmune diseases studied were systemic lupus erythematosus, rheumatoid arthritis, systemic sclerosis and ankylosing spondylitis with a mean age of disease of 8 years. 88% of patients can be considered sarcopenic with a mean 400 meter walk test of  $0,575\text{ m/s}$  and a mean of chair stand test of  $22,17\text{s}$ . Ultrasonographic determinations showed a mean BB of day 1 vs day 2 of  $5,07/5,04\text{ cm}^2$  and RF of day 1 vs day 2  $1,94/1,78\text{ cm}^2$  with no statistical difference between the measurement days ( $p=0,06-0,94$ ). A higher difference was observed at the RF( $p=0,06-0,3$ ) vs BB( $p=0,43-0,91$ ). The SarQoL questionnaire showed a mean result of  $48.75$ (cut-off point 70).

**Conclusions.** In conclusion sarcopenia is very common in patients with autoimmune diseases, having also a big impact in patients quality of life.

**Key words:** autoimmune diseases, sarcopenia, ultrasonography

**172. ULTRASONOGRAPHIC INTRA-INTER-VARIABILITY ON PATIENTS WITH SARCOPENIA AND AUTOIMMUNE DISEASES**

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