

ICE2020-1106

INFLUENCE OF DISEASE ACTIVITY AND BODY COMPOSITION PARAMETERS ON CROSS-SECTIONAL AREA OF THE MEDIAN NERVE IN ACROMEGALIC PATIENTS

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Introduction: Carpal tunnel syndrome (CTS) is neuropathy that occurs due to compression of median nerve in the carpal tunnel. Acromegaly is one of the important causes of CTS

Objectives: The aim of this study was to examine median nerve with ultrasound in acromegalic patients and assess the relationship with activity, duration of disease, anthropometric and body composition parameters.

Methods: We prospectively examined the cross sectional area (CSA) of median nerve with high-resolution ultrasound in 107 acromegalic patients (70 females and 37 males). Body composition parameters were assessed by dual – energy X-ray absorptiometry (DXA). The t-student tests and Pearson correlation were used for data analysis

Results: The cross sectional area of median nerve in patients was 0.12 ± 0.05 cm² (0.11 ± 0.05 cm² in women and 0.13 ± 0.05 cm² in men, $P = 0.043$). Positive correlation was found between the levels of IGF-1 and CSA in whole study group ($R = 0.400$, $P < 0.001$) and female population ($R = 0.466$, $P < 0.001$). In male population our results did not reach statistical significance ($P = 0.07$). Relationship between CSA and duration of disease in both genders was not confirmed. BMI correlated with the CSA in whole study group ($R = 0.294$, $P = 0.002$) and also in subgroup of women ($R = 0.375$, $P < 0.001$). No correlation was observed between fat mass, FMI (total body fat mass/ height) and CSA of median nerve in all study subgroups. Lean mass and LMI (total body lean mass/ height) positively correlated with CSA in whole study group ($R = 0.340$, $P < 0.001$; $R = 0.424$, $P < 0.001$) and also in subgroup of female ($R = 0.491$, $P < 0.001$; $R = 0.491$, $P < 0.001$).

Conclusion: We confirmed positive correlation between the levels of IGF-1 and CSA of median nerve and according to our findings CSA is independent on the duration of the disease. We also confirmed positive correlation between CSA of median nerve and body composition parameters BMI and lean mass, we did not describe any correlation with fat mass.

Disclosure of Interest: None Declared