Longitudinal Changes in Body Composition in Subjects with Diabetes Who Received Low-Carbohydrate Diet Education: The Effect of Age and Sex

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Abstract : Aims: This study investigated the longitudinal changes in BC were evaluated in patients with T2D who received carbohydrate-restricted diet education (CRDE), and the effects of age and sex on BC were analyzed. Design: This retrospective observational study was conducted between 2018 and 2021. A total of 6164 T2D patients were analyzed. Subjects with T2D who received CRDE (daily carbohydrate intake: 26-45%). A hierarchical linear model (HLM) was used to estimate the change amount and rate of change for the following variables in each group: body weight (BW), body mass index (BMI), body fat mass (BFM), percent body fat (PBF), appendicular skeletal muscle mass (ASM), and skeletal muscle index (SMI). Results: The BW, BMI, ASM, SMI and BFM of T2D patients who received CRDE for 3 years decreased with increasing age; PBF showed the opposite trend. The changes in BW, BMI, ASM, and SMI of patients older than 65 years were higher than those of patients younger than 65 years, and the annual rate of decline for males was higher than that for females. The annual change in BFM and PBF for both sexes changed from a downward trend before the age of 65 to a slow increase after the age of 65, and the slow increase rate for women was higher than that for men. Conclusion: Changes in body composition are associated with age and sex. BW and muscle tissue decrease with age, and attention must be paid to the rebound of adipose tissue after middle age. Patient or Public Contribution: The patient agreed to participate in a retrospective chart review during in the study period.
Keywords : body weight, body composition, carbohydrate-restricted diet, nursing, type 2 diabetes
Conference Title : ICPNPPC 2024 : International Conference on Perioperative Nursing and Postoperative Patient Care
Conference Location : Bangkok, Thailand
Conference Dates : August 15-16, 2024