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Glutamine use in pelvic sarcopenia: A prospective, randomized, placebo controlled, double blind study

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The pelvic floor muscles are important in the maintenance of continence. The weakness of muscles may lead to stress incontinence and facilitate urgency and functional incontinence. We aimed to determine the effect of additional oral glutamine supplementation to Kegel exercise on pelvic floor strength and clinical parameters of urinary incontinence in females. Females with urinary incontinence were included. Digital test and a vaginal manometer were used for measuring the strength of the pelvic floor muscles. Twenty four hours pad weight test was examined. Participants were randomized into 2 groups as oral glutamine 30 g/day and placebo. It was asked to use the supplementation and Kegel exercises to all participants for 3 months. Basic and 3rd month measurements were compared. Also, the progression between measurements at basic and 3rd months was compared. There were 11 patients in the glutamine arm and 18 patients in the placebo arm. Mean age was 58.2±6.6 years. There was no age difference between the groups [glutamine 59±3.8, placebo 57.8±7.9 years, $p>0.05$]. In glutamine arm, vaginal muscle strength assessed by digital test was higher at the end of 3 months [2.9 ± 0.7 vs. 4 ± 0.9 ; 0-3 months respectively, $p=0.014$]; perineometer measurements were not statistically different [27.4 ± 8.3 vs. 31.2 ± 8.9 ; 0-3 months respectively, $p>0.05$]; 24 hour pad weight was not different [$p>0.05$]. In the placebo arm, there was statistically significant progress in vaginal muscle strength assessed by both digital test and perineometer and 24-hour pad weight (p values: 0.005, 0.011, and 0.002 respectively). When we compare the progression scores between the groups; there was no statistically significant difference [$p>0.05$]. Our study suggests that glutamine supplementation does not provide additional benefit in the treatment of pelvic muscle sarcopenia in patients without protein-energy-malnutrition.

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