JOURNAL HIGHLIGHTS

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Supplements and Sarcopenia

High-quality oral nutritional supplements can improve strength in malnourished older individuals with mild to moderate sarcopenia, according to a multi-center randomized double-blinded controlled clinical trial in Lincoln, NE.

Led by Joel T. Cramer, PhD, of the University of Nebraska-Lincoln, researchers randomized 330 men and women 65 and older from Europe and North America who had both malnutrition and sarcopenia to receive either a control or experimental supplement, which they drank twice daily in between regular meals for 24 weeks.

"My colleagues and I have been working in the fields of malnutrition, sarcopenia, and strength for some time, and in doing so we are continually looking for new ways to care for the patients with these issues," Dr. Cramer told *Caring*. "We partnered with Abbott Nutrition on this study as a way to determine the intersections between malnutrition and sarcopenia, and to look for new evidence-based care practices to ultimately improve outcomes for vulnerable patients."

The experimental supplement contained 20 g of protein, 11 g of fat, 36 g of carbohydrate, 1.5 g calcium 33 -hydroxy -methylbutyrate, 499 IU of vitamin D_3, and other vitamins, minerals, and nutrients. The control supplement, Ensure Plus (Abbott), contained 14 g of protein, 11 g of fat, 44 g of carbohydrate, 147 IU vitamin D_3, and additional vitamins and minerals.

Dr. Cramer and his colleagues measured isokinetic peak torque leg strength, muscle quality, grip strength and gait speed at baseline and at 12 and 24 weeks. Each of these improved in both groups during the study.

Isokinetic peak torque leg strength (PT), the primary outcome measure of the study, was essentially the same in both groups at baseline — 57 Nm for the control group, 56 Nm for the experimental group — and increased in both groups at 12 weeks. The increase was maintained throughout the 24 weeks. However, the increase was slightly greater in the group that used the experimental supplement (3 Nm at 12 weeks, 4 Nm at 24 weeks) compared with those who used the control supplement (2 Nm at 12 weeks, 2 Nm at 24 weeks).

Researchers also evaluated individuals in both groups by whether they had severe sarcopenia, mild-moderate sarcopenia, sarcopenia with normal gait speed, and sarcopenia with normal grip strength. Individuals with severe sarcopenia had lower baseline PT and muscle quality at baseline compared to those with mild-moderate sarcopenia.

In those individuals who had sarcopenia and normal grip strength, PT increased twice as much by 12 weeks in the experimental group (6.5 Nm) vs. the control (1.7 Nm) group. Additionally, at 24 weeks, the increase was maintained in the experimental group (5 Nm) but not the control group (0.3 Nm).

"We didn't expect to see such impactful results, especially since this study set the bar high with comparing a specialized nutritional product to 'standard-of-care' high-protein nutritional product, and most nutrition studies compare to a placebo," Dr. Cramer said. "Also, we examined a complex patient population since our subjects had malnutrition, sarcopenia, and advanced age. But at the end of the day, we expected to find that proper nutritional interventions would improve outcomes for these patients."

Source: *Cramer JT, Cruz-Jentoft AJ, Landi F, et al. Impacts of high-protein oral nutritional supplements among malnourished men and women with sarcopenia: A multi-center, randomized, double-blinded, controlled trial. J Am Med Dir Assoc. [doi:10.1016/j.jamda.2016.08.009].*

Anticholinergic Burden

Anticholinergic medication burden is associated with hospitalization and all-cause mortality in institutionalized older adults, according to a 5-year longitudinal retrospective observational study in Italy.

Led by Davide L. Vetrano, MD, of Karolinska Institutet and University of Stockholm, Sweden, and Catholic University in Rome, Italy, researchers analyzed a random sample of 3,761 nursing home residents in Umbria who were evaluated at least twice during a 5-year period. They assessed each individual's anticholinergic burden using the anticholinergic cognitive burden (ACB) scale, dividing individuals by scores of 0, 1, and 2+, and looked at overall mortality and first hospitalization.

During the study, 91 individuals were hospitalized, and 386 died. After adjusting for possible confounders, individuals with ACB scores of 1 and 2+ were at increased risk of overall mortality or first hospitalization compared to those with an ACB score of 0.

After stratifying the analysis by the presence of coronary artery disease (CAD), the risk for the same outcome increased with the anticholinergic burden only for individuals who had coronary artery disease, with a hazard ratio of 1.53 for those with an ACB score of 2+. "An ACB score 2+ was marginally associated with first hospitalization, considering death as a competing risk in participants affected by CAD," the researchers added.

Anticholinergic medications have a higher risk of cardiovascular and neurologic events, which may explain the findings.

Source: *Vetrano DL, La Carpia D, Grande G, et al. Italian Group for Appropriate Drug Prescription in the Elderly (I-GrADE). Anticholinergic medication burden and 5-year risk of hospitalization and death in nursing home elderly residents with coronary artery disease. J Am Med Dir Assoc. [doi:10.1016/j.jamda.2016.07.012].*

Telemedicine and Transfers

The use of telemedicine in LTC facilities can help prevent unnecessary hospitalizations among nursing home residents, a pilot study found.

In 2012, Joshua Hofmeyer, of Avera Health in Sioux Falls, ND, and colleagues launched the pilot model at five sites of Avera, an integrated health system in rural communities in Iowa, Minnesota, Nebraska, and South Dakota. They installed two-way video and peripherals for real-time communication with on-call specialists, and provided specialty equipment, such as two-way stethoscopes and high-definition cameras. A core group of staff included a project director, two advanced practice providers, and three registered nurses.

Between January 2012 and April 2015, 736 two-way video transfer consultations took place — 511 potential transfers the provider determined were avoidable — in addition to 863 other telephonic encounters. Most transfers were for neurologic or syncope issues (66% of cases were transferred), abdominal or gastrointestinal (45%), and shortness of breath (44%). The lowest were for urologic (5%) and skin complaints (11%).

The pilot increased to 14 sites in 2014, 20 in 2015 and 34 as of mid-2016. By April 2015, the providers determined that 69% of cases did not require a transfer; the researchers said avoiding transfers reduced undue stress and other risks to residents.

Source: *Hofmeyer J, Leider JP, Satorius J, et al. Implementation of telemedicine consultation to assess unplanned transfers in rural long-term care facilities, 2012-2015: A pilot study. J Am Med Dir Assoc. [doi: 10.1016/j.jamda.2016.06.014].*

Jeffrey S. Eisenberg, a freelance writer in the Philadelphia area, compiled this report.

Caring for the Ages

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