



Nutraceutical Newsletter

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Breakthrough Study on AstaReal® Astaxanthin and Sarcopenia.

Combating Frailty in Aging Populations for Better Quality of Life.

Maintaining muscle mass and mobility as we age is critical to maximizing quality of life and increasing our healthspan. While insufficient protein intake, insulin resistance, lack of physical activity or low antioxidant levels can lead to a loss in muscle mass at any age, loss in muscle mass is most commonly seen in individuals over 65 years of age. In the US, it is prevalent in 22.6% of women and 26.8% of men above 64 years of age and in 31% of women and 52.9% of men above 80 years of age. This progressive loss in muscle is known as sarcopenia, and it is associated with reduced physical strength, poor mobility, and increasing frailty. Sarcopenia can affect quality of life, increase the number of falls, and accelerate the need for assisted living services.

Understanding Sarcopenia.

Sarcopenia is primarily caused by reduced dietary protein absorption, which tips the scales of muscle metabolism away from protein synthesis and in favor of protein breakdown. This also makes it difficult to experience gains from physical activity meant to keep muscles active and strong. In addition, total antioxidant capacity decreases with age and shifts the balance towards accumulation of excess free radicals in the body, contributing to muscle atrophy and frailty associated with Sarcopenia.

Another factor influencing muscle metabolism is insulin sensitivity. Insulin distributes glucose as a quick energy source for muscles and regulates muscle energy levels. While normal insulin signaling promotes healthy protein synthesis, a body that develops resistance to insulin slows down protein synthesis and reduces the muscles' energy source. Insulin resistance is linked to excess accumulation of fat, which is associated with high levels of free radical production that can lead to inflammation and muscle frailty in a condition known as sarcopenic obesity.

Study: AstaReal® Astaxanthin Together with Exercise May Turn the Tide on Frailty in the Elderly.

A randomized, double-blind, placebo-controlled human study was conducted at the University of Washington Medical Center and the Fred Hutchinson Cancer Research Center. The study included 42 participants (ages 65-82) who supplemented with AstaReal® Astaxanthin (n=23) or placebo (n=19) and has been accepted for publication in the journal "Cachexia, Sarcopenia and Muscle" with the title "Building Strength, Endurance and Mobility using Astaxanthin Formulation with Functional Training in the Elderly." This is a pioneering study, which opens possibilities for maintenance of muscle mass and strength in the elderly by combining minimal physical exercise together with AstaReal® Astaxanthin supplementation. The dietary formulation used in the study was 12mg AstaReal® Astaxanthin, 10mg tocotrienol, and 6mg zinc taken daily.

Subjects participated in a 12-week exercise schedule consisting of treadmill interval training 3 times/week, using alternating periods of high incline (9-12% grade) and low incline (5-7% grade). Researchers examined leg muscle strength and contraction force, as well as leg muscle size using Magnetic Resonance Imaging (MRI). AstaReal® Astaxanthin supplementation together with physical exercise resulted in longer exercise times, greater exercise intensity, and an 8% increase in a 6 min walking distance test. Leg muscle strength, and muscle mass improved by 14.4% (p<0.02) and 2.7% (p<0.01) respectively, only in the AstaReal® Astaxanthin group. No significant changes were found in the placebo group.

AstaReal® Astaxanthin has previously been shown to support muscle endurance and recovery from exercise. This new evidence now suggests that AstaReal® Astaxanthin can also support muscle strength and mass in the elderly, making it an important nutrient for healthy aging.

References

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3. Cleasby M.E., et al. J Endocrinol. 2016 May;229(2):R67-81.