

Anorexia of Aging

Assessment and Management

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KEYWORDS

- Weight loss • Cachexia • Sarcopenia • Nutrition • Appetite • Food intake
- Multidimensional intervention • Geriatric syndrome

KEY POINTS

- Anorexia is common in advanced age and is associated with multiple adverse health outcomes, including reduced quality of life, morbidity, and mortality.
- Anorexia of aging results from the various contributions of alterations of peripheral and central regulatory systems, medications, comorbidities, and psychosocial factors.
- Eating habits and nutritional status should be routinely evaluated to identify older persons with appetite disturbances who are at risk of developing malnutrition.
- Multidimensional strategies, involving food manipulation, targeted nutritional supplementation, and psychosocial support, are effective at preventing and treating anorexia and its negative outcomes.

INTRODUCTION

Food intake undergoes substantial changes over the life course,¹ implying variations in body energy fuel reservoirs. Being essential for the execution of any activity, the preservation of overall bodily energy status is critical for successful aging. Indeed, a breach in the nutritional status makes older adults more vulnerable to internal and/or external stressors, which can severely affect overall health and quality of life.

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The term “anorexia of aging” has been coined to indicate the multifactorial decrease in appetite and/or food intake occurring in late life.² Because malnutrition represents the endpoint of the mismatch between dietary intake and energy demands, this disorder has been recognized as a specific geriatric syndrome that can lead to malnutrition if not appropriately diagnosed and treated.^{3,4}

In addition to alterations of the nutritional status, other relevant clinical correlates of anorexia of aging include body wasting (ie, cachexia and sarcopenia), poor endurance, reduced physical performance, slow gait speed, and impaired mobility.^{2,5} Selective nutritional deficits can impact the health status also in the absence of overt malnutrition. For instance, insufficient protein intake increases the risk of developing sarcopenia and is associated with morbidity and mortality.^{6–9} In addition, anorexia has been shown to impact survival in older adults independent of age, gender, and multimorbidity.^{10,11}

Although nutritional counseling should be considered at any stage as a key element to preserve good health, special efforts should be directed to increasing awareness of health care providers about nutritional disorders specific to the elderly. In addition, attention should be given to older people in acute and post-acute care settings, as they are at higher risk of incurring adverse health outcomes. As such, the adoption of nutritional evaluations as a routine component of geriatric assessment needs to be prioritized to facilitate therapeutic decision making.^{12,13}

In this review, we provide a concise synopsis on the multiple causes and factors composing the biological substrate of anorexia of aging, as well as some of the risk factors associated with this condition with a special emphasis on the current available tools for its assessment and management.

ANOREXIA OF AGING: THE BIOLOGICAL SUBSTRATE

The complex pathophysiology of anorexia of aging resides in its multifactorial origin involving derangements of both peripheral and central regulatory systems.¹⁴ Several factors, including age-related gradual decrease in smell and taste perception, hormonal changes in gut mediators (for example, cholecystokinin [CCK], glucagon-like peptide 1), and altered secretion pattern of ghrelin after nutrient intake, affect satiation and dietary behaviors.² All these factors modulate the function and activity of central regulatory systems both indirectly via activation of afferent vagal fibers and directly through releasing neurotransmitters into the blood.

In particular, alterations of the sense of taste and smell, occurring after the age of 50 to 60 years, contributes to reducing food palatability and impacts diet variety. On the other hand, the “hunger hormone” ghrelin released by the gastrointestinal mucosa is negatively modulated by circulating leptin and insulin, the levels of which may be altered in older adults.^{15–18} Similar to ghrelin, modifications in the dynamics of CCK have also been observed in advanced age and associated with anorexia of aging.^{15–18} Interestingly, age-related increases in CCK and peptide YY circulating levels have been shown to convey synergistic anorexigenic signals to the hypothalamus.^{15–18}

Gastrointestinal muscular tone and motility both decrease during aging. As a consequence, older people may experience longer-lasting satiety due to delayed gastric emptying. Slower gastrointestinal transit also favors constipation and flatulence, further contributing to reducing food desire. In addition, diminished stomach digestive ability, enhanced and prolonged antral distension, and modifications of small intestine satiety signals in older individuals may further decrease appetite and food intake in old age.^{15–18}

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