



Sarcopenia: A Growing Challenge in Aging Populations

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Abstract

Sarcopenia is a progressive and generalized skeletal muscle disorder associated with aging, chronic disease, and reduced physical activity. It contributes significantly to mobility limitations, frailty, falls, disability, and reduced quality of life in older adults. Despite being highly prevalent, sarcopenia often remains underdiagnosed due to variations in diagnostic criteria and limited awareness among clinicians. Recent advances emphasize the importance of early detection through assessments of muscle mass, strength, and function. Management focuses on multimodal interventions combining resistance training, optimal protein intake, vitamin D supplementation, and treatment of underlying comorbidities. This article provides an overview of the pathophysiology, risk factors, diagnostic approaches, and evidence-based strategies for the prevention and management of sarcopenia in aging populations.

Keywords: Sarcopenia, Muscle Loss, Aging, Frailty, Muscle Strength, Functional Decline, Geriatric Medicine, Nutrition, Resistance Training, Older Adults

Introduction

Sarcopenia is characterized by a gradual decline in skeletal muscle mass, strength, and physical performance as individuals age. Recognized as a key component of frailty, sarcopenia increases the risk of falls, fractures, hospitalization, and mortality among older adults. While muscle loss is a natural consequence of aging, the condition becomes clinically significant when it interferes with daily functioning and independence [1,2].

Multiple mechanisms contribute to the development of sarcopenia. These include hormonal changes, chronic inflammation, neuromuscular degradation, mitochondrial dysfunction, decreased physical activity, and inadequate nutrition. Additionally, chronic illnesses such as diabetes, cardiovascular disease, cancer, and renal impairment further accelerate muscle degeneration.

Diagnostic guidelines from groups like the European Working Group on Sarcopenia in Older People (EWGSOP) emphasize the assessment of muscle strength, muscle quantity, and physical performance. Tools such as handgrip strength measurement, DXA or

bioimpedance analysis, and gait speed testing are commonly used in clinical and research settings [3,4].

The global rise in life expectancy increases the urgency for effective strategies to mitigate sarcopenia. Early identification and targeted interventions can help preserve functional capacity, reduce the healthcare burden, and improve quality of life for aging individuals [5].

Conclusion

Sarcopenia represents a major public health concern affecting older adults worldwide. Its impact on functional ability, independence, and overall well-being highlights the need for greater clinical attention and preventive strategies. Evidence supports the use of resistance training, adequate dietary protein, and vitamin D supplementation as foundational approaches to management. Integrating sarcopenia screening into routine geriatric assessments and promoting active lifestyles can substantially reduce disease progression. Continued research and awareness are essential for improving outcomes and enhancing the quality of life among aging populations.

References

- Hossein Danafar (2016) High performance liquid chromatographic method for determination of Ezetimibe in pharmaceutical formulation tablets. Pharm Biomed Res 2: 38.
- Praveen Kumar (2012) A stability indicating RP-HPLC method development for determination of Ezetimibe in tablet dosage form. Der Pharma Chemica 4: 1296-1304.
- Raul (2015) RP-HPLC Method Development and Validation for the Simultaneous Estimation of Atorvastatin and Ezetimibe in Pharmaceutical Dosage Form. Asian J Pharm Clin Res 8: 178-181.
- El-Bagary (2014) LC-MS-MS Simultaneous Determination of Atorvastatin and Ezetimibe in Human Plasma. Journal of Chromatographic Science 52:773-780.
- Suneela D, Dhaneshwar S, Deshpande P, Patil M (2007) Development and validation of a method for simultaneous densitometric estimation of Atorvastatin calcium and Ezetimibe as the bulk drug and in tablet dosage forms. Acta Chromatographica 19: 141-148.
- Danafar H (2016) High performance liquid chromatographic method for determination of Ezetimibe in pharmaceutical formulation tablets. Pharmaceutical and Biomedical Research 2: 38-46.