**Navigating Immunosenescence: Strategies for Enhanced Disease Treatment and Longevity**

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Understanding the intricacies of aging and the development of age-related diseases is paramount in the field of gerontology and biomedical research. The relationship between aging and the prevalence of chronic diseases underscores the urgent need for comprehensive studies to unravel the underlying biological mechanisms that drive the aging process. As such, the significance of aging research cannot be overstated, with the ultimate goal of identifying interventions that can not only extend lifespan but also improve the quality of life in older populations.

In recent years, there has been a remarkable expansion in the development of aging control technologies, including senolytics, factors derived from young blood, cellular reprogramming, and targeted immunomodulation, driven by a surge in interest from both the scientific community and the public. This has been accompanied by numerous attempts to transition these technologies from bench to bedside, with a multitude of clinical trials underway to validate their efficacy and safety. Among the spectrum of anti-aging interventions, those targeting the phenomenon of immunosenescence have garnered particular attention, especially in the aftermath of the recent pandemic.

Immunosenescence refers to the gradual deterioration of the immune system associated with aging, leading to an imbalance in immune function. This imbalance not only reduces resistance to external infections but also contributes to the onset of various diseases through the promotion of chronic inflammation. Consequently, technologies aimed at modulating immunosenescence are increasingly being viewed as critical for enhancing healthspan and combating age-related diseases.

In this presentation, I will explore the latest advancements in targeting immunosenescence as a novel approach within the anti-aging technology landscape. By delving into the mechanisms through which immunosenescence contributes to disease and aging, as well as discussing potential therapeutic strategies, this talk aims to illuminate the path forward in the quest for healthier aging. Highlighting current research and development efforts, the presentation will underscore the growing importance of immunosenescence as a key target for interventions, promising not just an increase in lifespan, but a significant improvement in the quality of life for aging populations.