How Old Is Your Immune System?

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Abstract
Improving medical care, hygienic conditions and nutrition enabled the extension of human lifespan. Since several decades there is a shift in the type of patients visiting hospitals, as lifespan is not always accompanied by healthspan. Human aging is associated with many diseases and leading causes of death are cardiovascular diseases, infectious diseases and cancers. Elderly individuals show signs of erosion for several systems including the immune system. As the immune system plays a key role in the protection against infections, cancers and in the regulation of inflammation it is believed that immunosenescence explains age-related prevalence to diseases. I will discuss the changes occurring in the immune system during human aging with a focus on T cells. Because of lifelong exposure to antigens I will describe how persistent infections such as Cytomegalovirus impact on immunological aging. The relationship between immunosenescence and health in general will be discussed.

Anis Larbi completed his Bachelor in Applied Biology from Claude Bernard University, Lyon (France). He moved to the University of Sherbrooke (Canada) where he obtained in 2005 his PhD degree in Immunology from the Clinical Research Center, Faculty of Medicine. He performed his studies at the Research Center on Aging under Prof. Tamas Fulop, at the Laboratory of Immunity/Signaling. His work on intracellular signaling events in T cells and neutrophils during aging focused on membrane lipid rafts composition and function.

During his postdoctoral studies in the Center for Medical Research at the University of Tubingen (Germany) he focused on the impact of chronic infectious agents such as cytomegalovirus on immunity of the elderly. There he also developed his skills in multi-parametric flow cytometry. During his studies he took part in several EU-funded (FP6/FP7) collaborative consortia including ImAginE, Zincage, T-CIA and Lifespan. He joined SIgN in February 2010.