

The influence of sarcopenia on immune homeostasis

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Sarcopenia is defined as a syndrome characterized by progressive and generalized loss of skeletal muscle mass and strength with a risk of adverse outcomes such as physical disability, poor quality of life and death, as a common negative consequence of aging. The present study is undertaken to investigate the correlation between muscle atrophy and aging-related immune deterioration by using a sciatic nerve dissected sarcopenic mouse model. The fraction of immunological cells, including T cells, B cells, macrophages, natural killer cells, and neutrophils, was observed. The systemic inflammatory responses were evaluated in lipopolysaccharide-induced sepsis animals. The T and B cell lineages were significantly suppressed in the sarcopenic model compared with control mice, and the fraction of macrophages and natural killer cells also tended to increase. The survival proportions in sarcopenic mice were significantly decreased while comparing to control mice. In conclusion, sarcopenia induces a functional impairment in immune cells. The mechanism of impaired immunological system would be assessed in our future planned study.