

Supercentenarian Study: the quest for biological determinants of healthy longevity

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Centenarians, and even more so supercentenarians, people who reach 110 years of age, are considered role models for successful aging. Along with age-related diseases and mortality, supercentenarians maintain physical and cognitive, and cognition longer than the general population or even longer than centenarians who died between centenarians who died between the ages of 100 and 104. Our goals in the Centenarian are to identify the genetic, biological, environmental, and social factors associated with healthy aging and longevity. Using the extensive cohort database of centenarians, semi-supercentenarians (105-109 years old), and s supercentenarians, we found that maintaining cognitive function and I cardiovascular risks are among the essential characteristics of old centenarians. In addition, we found that chronic inflammation is the most important determinant of cognitive function and extreme survival beyond 100 years of age. The findings suggest that successful brain and cardiovascular aging may be a promising pathway to healthy and happy longevity in this aging and cancer development.

Extensive research into the maintenance and reduction of epigenetic age has provided insights into increasing healthy longevity. We have explored the epigenetic signatures reflecting hallmarks of exceptional healthy longevity, including avoiding age-related diseases and cognitive functional decline. To this end, we examined which CpG sites in centenarians and supercentenarians had DNA methylation patterns that mirrored the age-related findings of non-centenarians and which did not and found that centenarians and supercentenarians had younger-than-expected epigenetic states. These results suggest that exceptional healthy longevity depends on maintaining young epigenetic states and advanced states of specific epigenetic regions.