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Cellular and molecular immune markers of aging and frailty

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Propositions belonging to the thesis:

“Cellular and molecular immune markers of aging and frailty” – LD Samson

1. Higher cell numbers of the myeloid lineage in peripheral blood are more indicative of frailty than changes in cell numbers of the lymphoid lineage (this thesis).
2. Frailty is more strongly associated with cellular immune markers in women than in men (this thesis).
3. Clear differences in levels of immunological markers are present between men and women (this thesis). Sex-specific differences should thus be taken into account when developing new medication or vaccines.
4. Differences in immunological marker levels between men and women become less clear at higher age (>60 years) (this thesis).
5. Chronic cytomegalovirus infection is not a major factor in the process of becoming frail (this thesis).
6. Intracellular cytokine signaling through the JAK/STAT pathway is disrupted in frail older people (this thesis), which could form a basis to develop new diagnostic tests for the identification of frailty in the future.
7. Adiposity is important in early onset of chronic low-grade inflammation and in the process of becoming frail (this thesis).
8. Follow-up of individuals during a long time span (this thesis) helps to distinguish the most important immune marker level changes with age and frailty.
9. When analyzing aging and complex biological systems such as immunity and inflammation with many interacting components (this thesis), appropriate and robust statistical methods should be chosen that are able to deal with the complexity.
10. Climbing and bouldering can delay aging of the immune system.
11. Curiosity is important. Don't take information for granted and never stop questioning.