

STRESS, INFLAMMATION, AND AGING

Nicolas Rohleder

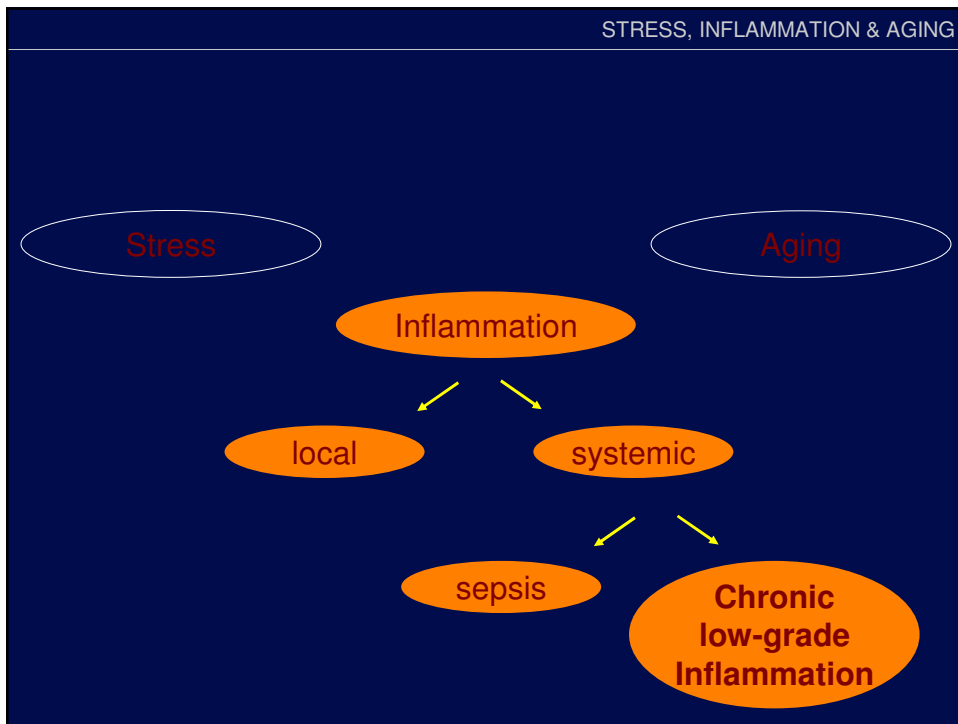
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STRESS, INFLAMMATION & AGING

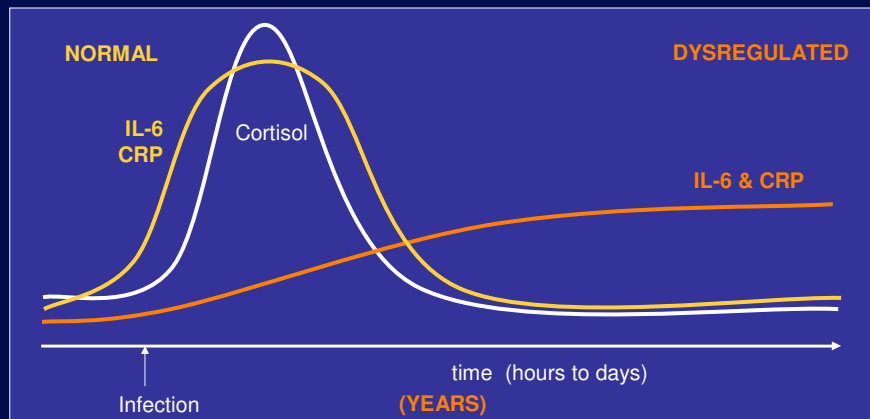
Stress

Aging

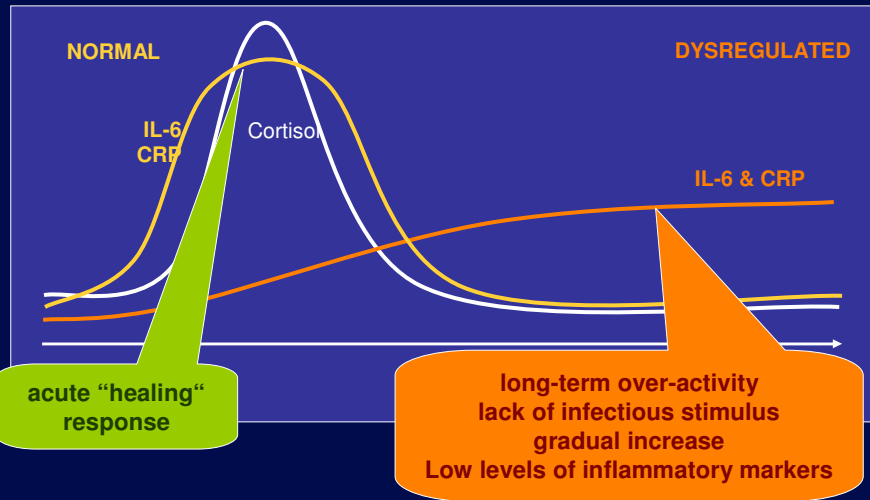
Inflammation



Chronic low-grade Inflammation



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Chronic low-grade Inflammation

Effects of chronic low-grade inflammation

- triggers local inflammatory responses throughout the body
 - Stimulates **atherosclerosis > MI & strokes** (e.g. Danesh, 1999)
 - Stimulates **insulin resistance / type 2 diabetes** (Hotamisligil, 2006)
 - Elicits **depressive symptoms, fatigue, and cognitive decline**
- CRP and IL-6 **predict mortality** in older people (e.g. Ershler, 1993; Harris et al., 1999)

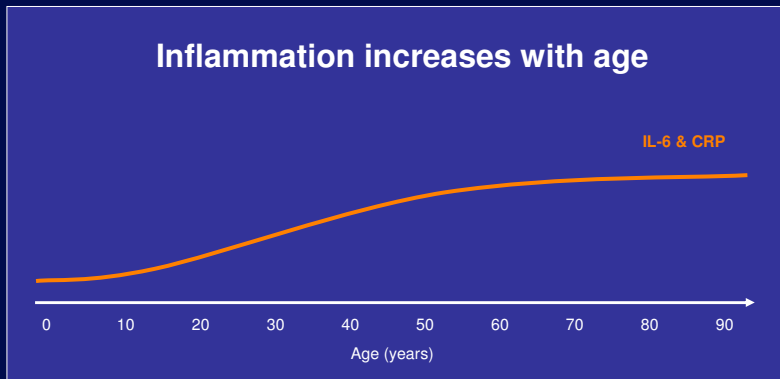
Inflammation - the "**silent killer**"

Chronic low-grade Inflammation

Stress

Aging

Inflammation increases with age

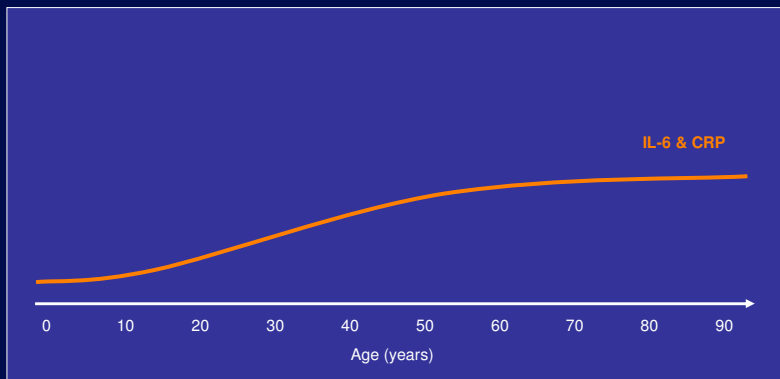


Chronic low-grade Inflammation

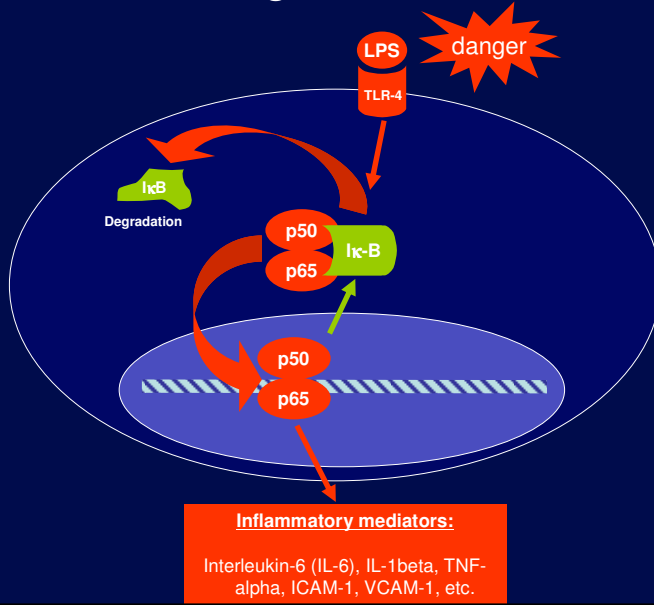
Stress

Aging

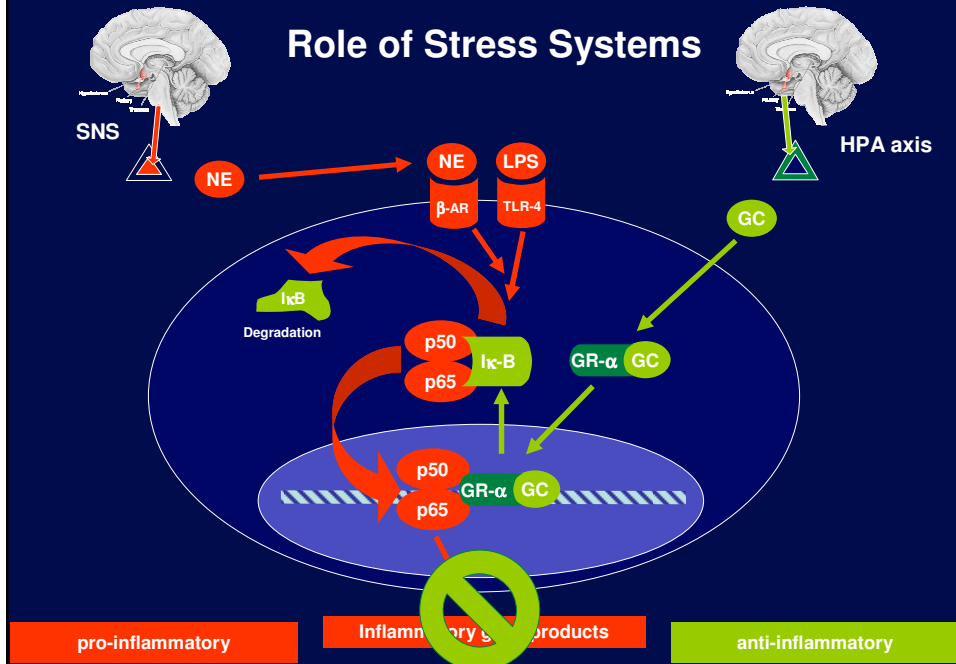
IL-6 & CRP

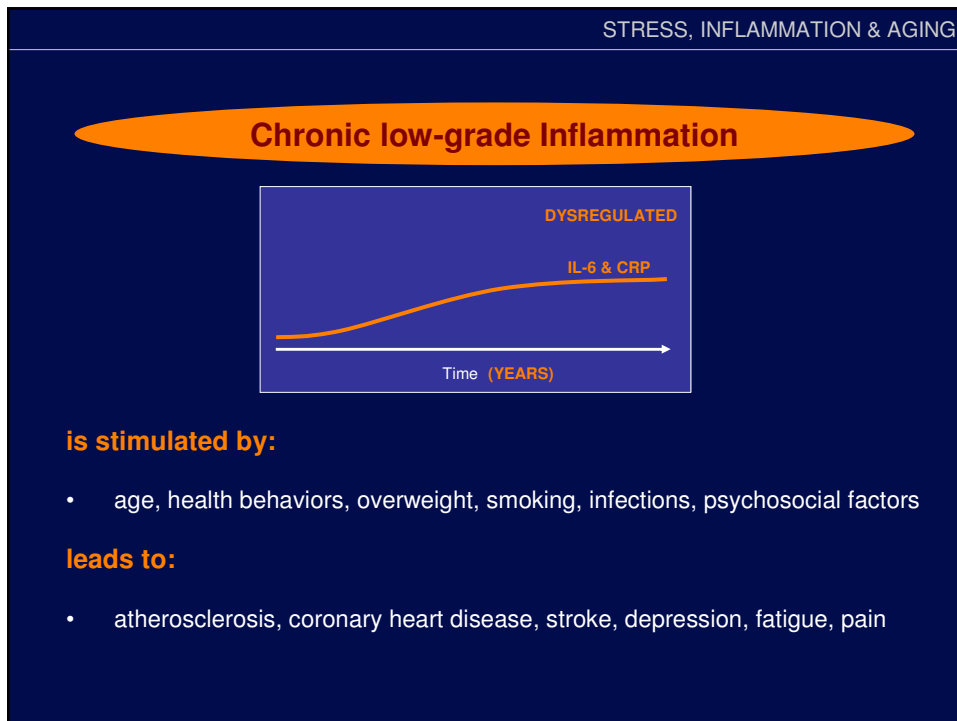
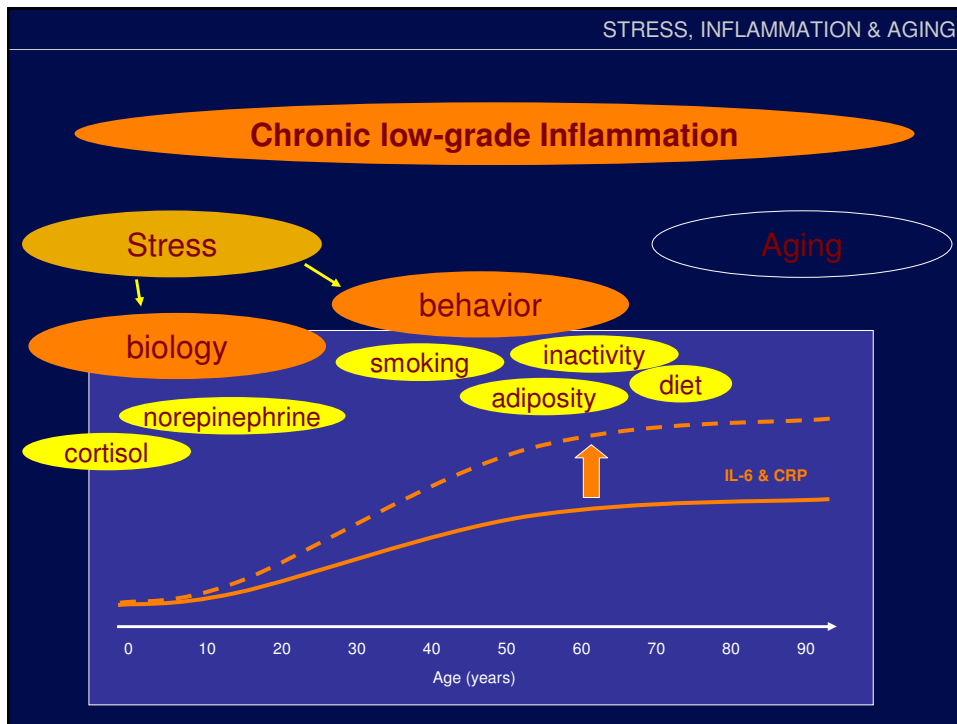


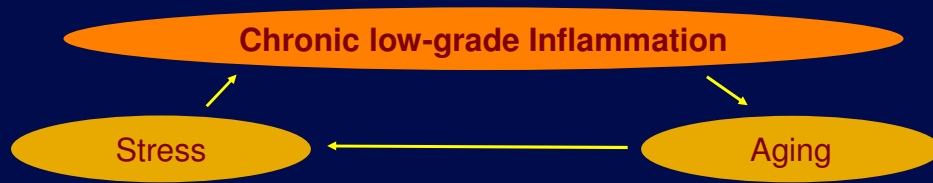
Intracellular Regulation of Inflammation



Role of Stress Systems



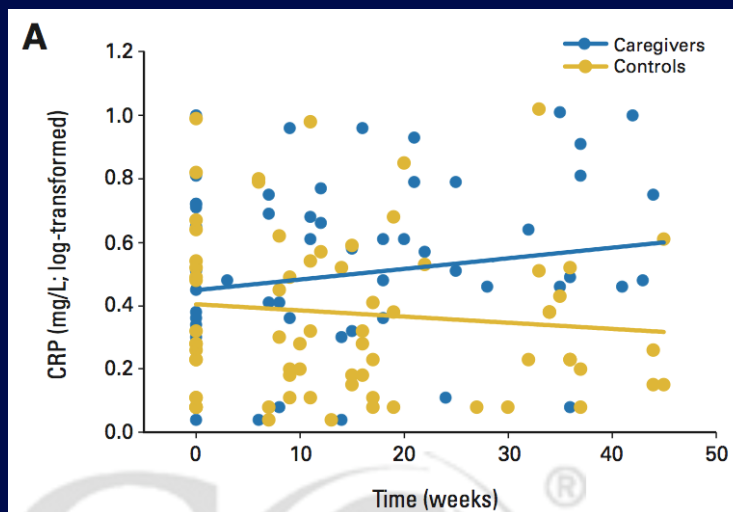


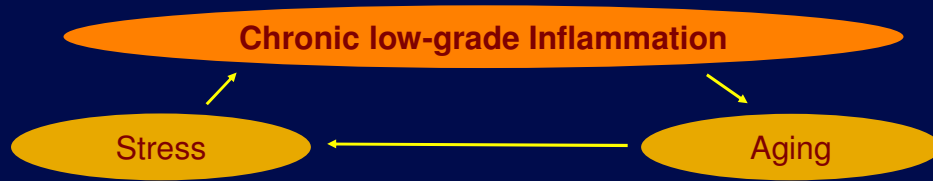


Outlook & Open Questions

- Is low-grade inflammation a natural consequence of aging?
- Is low-grade inflammation the consequence of life-long stress exposure?

Stress of caregiving to a brain cancer patient





Outlook & Open Questions

- Is low-grade inflammation a natural consequence of aging?
- Is low-grade inflammation the consequence of life-long stress exposure?
- What is the contribution of stress-induced changes in health behaviors?