

# **Relationship between cytokines, brain-derived neurotrophic factor, and cognitive impairment in adolescent and young adult cancer patients**

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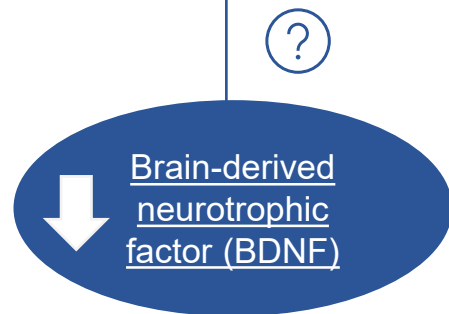
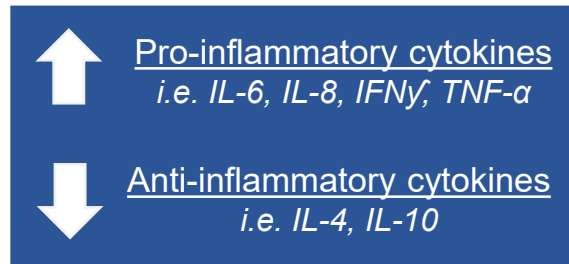
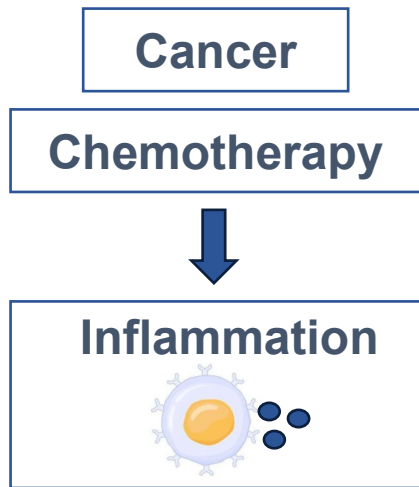
*November 8, 2024*



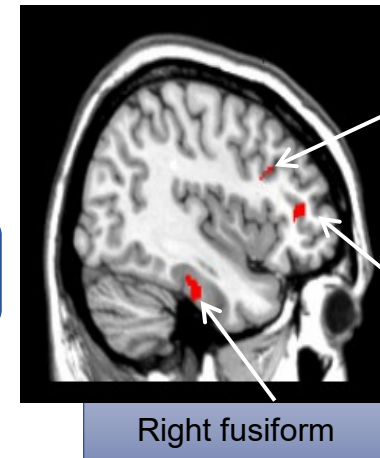
1 in 3 adolescent and young adults with cancer (AYAC, 15-39 yo) report cancer-related cognitive impairment (CRCI)



Negatively affects quality of life



**CRCI**



Right inferior frontal gyrus

Right middle frontal gyrus

*Structural changes in the brain in a 20 year old patient*

Tan CJ et al. *Psychooncology*. 2020; 29(8):1355-1362.  
 Ng DQ et al. *Scientific Reports*. 2023;13(1):16298.  
 Chan A et al. *Cancer Medicine*. 2023;12(4):4821-4831.

**Objective:**

Evaluate the associations between cytokines, BDNF, and cognition in AYAC compared to non-cancer controls from a longitudinal study

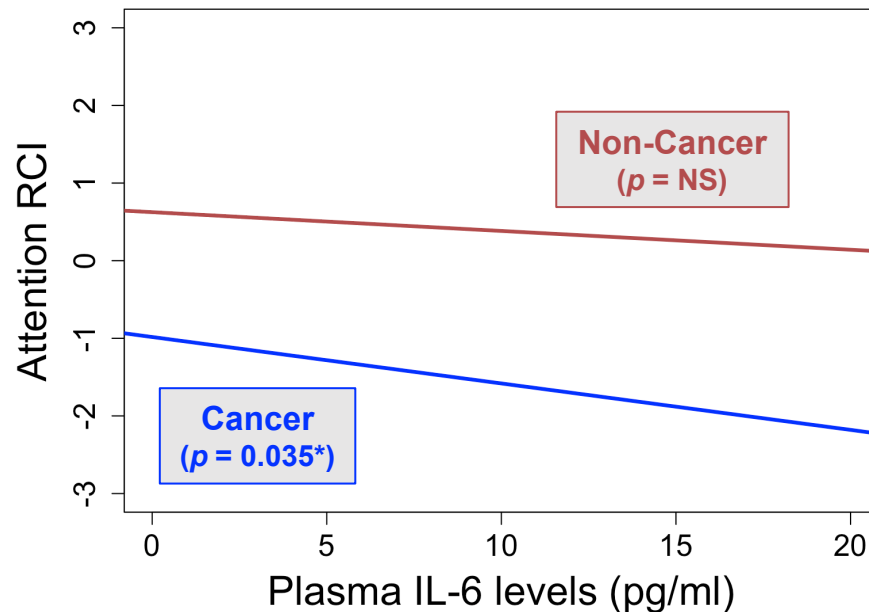


Mechanistic insight



Predictive biomarkers

**Higher IL-6 associated with worse cognition in AYAC but not in controls**



**Lower BDNF associated with worse cognition in AYAC but not in controls**

