

Inflammation and breast cancer survival

Chronic, low-grade inflammation drives the progression of many cancers, including breast cancer. Researchers observing breast cancer patients in a lifestyle study thus measured biochemical markers of inflammation and correlated it with survival times, to see if the markers could be used to predict disease outcomes. They took blood samples from 734 patients with non-invasive and invasive (stages I-III) breast cancer and measured two proteins, C-reactive protein (CRP) and serum amyloid A (SAA). These proteins were measured approximately 30 months after breast cancer diagnosis. The patients were then observed. Regardless of tumor stage, age, race, cardiovascular disease or body mass index, high levels of the inflammatory markers were significantly linked with shorter survival. Specifically, the patients with the highest SAA levels were 3 times as likely to die as patients with lowest SAA, and those with the highest CRP levels were twice as likely to die (hazard ratios were 3.15 and 2.27 respectively). Thus, these markers of chronic inflammation may be good prognostic predictors in breast cancer.

Pierce BL et al. Elevated biomarkers of inflammation are associated with reduced survival among breast cancer patients. *J Clin Oncol.* 2009, May 26. Epublication.

To summarize: Breast cancer patients with the most elevated levels of blood proteins indicating chronic, low-grade inflammation were 2-3 times more likely to die than those with the low levels.