

(L), unilateral/bilateral mastectomy (UM, BM)) on inflammation (IL-6) and fatigue (Fatigue Symptom Inventory) in a sample of 27 breast cancer patients ~1 week before and ~2 weeks after surgery. **Results:** Across the sample, IL-6 significantly increased from pre- to post-surgery ($p = .02$). BM led to significantly greater increases in IL-6 (mean = 2.48 pg/mL) than L (mean = 0.16 pg/mL). Fatigue significantly increased across all surgical groups ($p = .03$), with BM resulting in more fatigue than L (3.60 vs. 0.83, respectively). Increases in IL-6 were correlated with increases in fatigue ($r = 0.49$, $p = .02$). **Conclusion:** BM results in a significant increase in inflammation, which is associated with fatigue in breast cancer patients. These findings contribute to our understanding of the neuro-immune underpinnings of breast cancer-related fatigue and raise concern about the increasing use of BM when not clinically indicated.

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Association of serum levels of IL-1beta, IL-6 and TNF-alpha with personality dimensions and anxiety or depressive symptoms in patients with skin cancer

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Background: Cancer patients frequently manifest anxiety or depression symptoms. It has been described that alteration in moods can trigger an organic reaction that could be related with proinflammatory responses. **Methods:** The study included Sixty Mexican patients with clinical histopathology diagnosis of skin cancer. The questionnaires of Calderón's depressive syndrome and Eysenck's personality were applied. The serum levels of IL-1beta, IL6 and TNF-alpha were obtained using the ELISA technique. The Mann-Whitney U test and Spearman correlation method were performed with a significance level set at $p < 0.05$. **Results:** Values of IL-1beta, IL-6 and TNF-alpha were not affected by the presence of anxiety or depression symptomatology. Also, no correlation was detected between cytokines values and personality dimensions. On the other hand, we found correlations between the score of depression versus neuroticism ($r = 0.767$, $p < .001$) and psychoticism ($r = 0.425$, $p < 0.01$); IL-1beta versus IL-6 ($r = 0.808$, $p < 0.001$), IL-1beta versus TNF alpha ($r = 0.568$, $p < 0.001$), and IL-6 versus TNF alpha ($r = 0.532$, $p < 0.001$). **Conclusions:** Although, no significant relation among cytokines serum levels with anxiety/depressive symptoms or personality dimensions were demonstrated. We encounter that personality, and the manifestation of depression are related. Furthermore, the results obtained supports a proinflammatory mechanism involved in skin cancer.

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Serum levels of IFN-gamma, IL-15 and depressive symptoms in kidney transplant patients

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Background: Current evidence indicates that both mood disorders and peripheral immune activation are involved in the pathophysiology of kidney transplant patients. **Methods:** The study included 25 kidney transplant patients and 25 healthy controls, all Mexican. The Calderon depressive syndrome questionnaire was applied and the serum levels of IFN-gamma and IL-15 were determined through the ELISA technique. The Mann-Whitney U test and Spearman correlation method were performed with a significance level set at $p < .05$. Additionally, Bayesian analysis was performed. **Results:** In cases and controls, we identified correlations of IFN-gamma with IL-15 ($\rho = .438$, $p < .05$ and $\rho = .803$, $p < .005$, respectively) but not with depressive symptom scores. Although we did not find statistical significance of IFN-gamma levels or depressive symptoms between the two study groups; Bayesian analysis indicates that there is greater support than anecdotal evidence to suppose that both IFN-gamma levels (BF=2.27) and depressive symptom scores (BF=1.29) are higher in the group of kidney transplant patients. **Conclusions:** The results suggest a joint participation of IFN-gamma and IL-15 in peripheral immune activation without direct relationship with the depressive symptomatology score. More robust studies with an experimental design that differentiate depressive processes and large cytokine batteries are required to clarify mechanisms and identify psychoimmune profiles in kidney transplant patients.

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Life stressors, emotion regulation, and immunological aging in older adults

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Background: Stressful life events may influence immunological aging, but adaptive emotion regulation may attenuate this association. We investigated the between and within person effects of stressful life events and cognitive reappraisal on T and NK cell terminal differentiation in a longitudinal study of older adults. **Methods:** Biannually for up to 5 years, 149 participants (age 64–92, 58% female) reported on stressful life events (used with corresponding objective desirability ratings), reappraisal, and provided blood to assess composites of percent late-differentiated CD8 T cells (CD28- and CD57+ subsets) and CD56dim NK cells (CD57+, NKG2C+, and FcγR1g- subsets). **Results:** Multilevel models controlled for baseline age, time, sex, and average CMV titers. There was a significant interaction between life stressors and reappraisal on late-differentiated NK cells ($b = .06$, $SE = .03$, $p = .026$) but not T cells ($p = .27$). Between older adults, less desirable (i.e., more severe) life stressors were associated with higher percent late-differentiated NK cells among those low, but not high, in reappraisal. **Conclusion:** Cognitive reappraisal may play a protective role in attenuating the positive association between life stressors and immune aging.

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