Session A. Breast cancer

A83 Neuroendocrine-immune response and mood changes in early breast cancer patients following surgery and adjuvant chemotherapy

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Background: Confrontation with cancer is emotionally challenging in patients and there is now clear evidence that the psychological state of the individual can influence progression of the disease. About 15-50% of breast cancer (BC) pts meet diagnostic criteria for anxiety and depression. Depressed metastatic BC pts show blunted cortisol awakening responses and reduced respiratory sinus arrhythmia, reflecting a physiologic profile often associated with chronic stress. These endocrine changes could alter immune defense mechanisms or act directly on tumor metabolism affecting cancer progression.

Material and methods: Pts with newly diagnosed early BC (age > 18 years) and eligible for adjuvant (Ad) chemotherapy (CT) were included and assessed after 30-40 days from surgery of primary tumor. Pts were followed prospectively by oncologist and psychologist throughout the period of treatment 1 week before the start of CT after 3 or 4 cycle and 1 month after 6 or 8 cycle of CT; after the end of CT all the pts were assessed at 6, 12, 18 and 24 months. The Ad CT included mainly anthracycline and taxanes regimens. The Ad hormonal therapy consisted of tamoxifen or aromatase inhibitors in premenopausal or postmenopausal ormonoresponsive pts, respectively. Cortisol was assessed in the saliva 30 days after surgery and at months 6 and 12 after CT. On the same days serum Brain-derived Neurotrophic Factor (BDNF) levels, anti and pro-inflammatory cytokines, leptin, adiponectin, were measured and psychological tests administered to assess depressive symptoms, coping style and anxiety.

Results: Preliminary results from 30 pts showed increased levels of cortisol and serum chemokine MIP-1b LFA-IV- after six months of CT. As concern psychological tests, the average scores detected using the Beck Depression Inventory (BDI) indicates mild depression. Interestingly, we found increased levels of BDNF associated to decreased anxiety and depression levels at 12 months follow-up.

Conclusions: Overall, data indicate that psychological factors can affect physiological responses in BC pts. This is especially relevant since stressful events and negative affective states can amplify the consequences of the pathology, precipitating disease progression and promoting recurrence. Further analyses and results on the longest follow up are in progress in order to increase the strength of the data. Funding: Ministry of Health Ricerca Finalizzata-2009 and Fondazione Veronesi 2012 to F.C.