

Melatonin, the hormone of the pineal body : Its role as an endogenous biological marker in major depression and breast cancer

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This study was designed to assess the relation of melatonin to two important pathological conditions ; namely, major depression (MD) and breast cancer (BC) with the intention of evaluating its role as an endogenous biological marker of both conditions and its potential clinical significance in follow up of such cases. For this purpose, 50 female patients with major depression (20 patients before treatment and 30 patients under treatment) in addition to 73 female patients with breast cancer [28 in stages I and II (early BC), 25 in stages III and IV (late BC) and 20 after radical mastectomy] were chosen for assessment of the serum melatonin levels. Nocturnal blood samples were collected from the MD group, whereas morning samples were collected from the BC group. The results were compared with those of an age-matched control group consisting of 20 healthy females. Nocturnal serum melatonin levels were significantly decreased in MD patients before the start of therapy compared with the control group. Meanwhile, the results of patients under antidepressant therapy (monoamine oxidase inhibitors and tricyclic antidepressants) showed no significant difference from the control group. In cases of cancer breast, morning serum melatonin levels were significantly decreased in early stage of the disease, but became significantly elevated with progress of cancer and the occurrence of metastasis. Following radical mastectomy, the level of melatonin was insignificantly different from the control group.