Dehydroepiandrosterone sulfate (DHEAS) secretion in early and advanced solid neoplasms: selective deficiency in metastatic disease.


Source
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Abstract
Several endogenous hormones have been proven to stimulate cancer growth, whereas at present very few hormones are known to display oncostatic activity. The most widely investigated antitumor hormone is the pineal indole melatonin (MLT), and cancer progression has been shown to be associated with a decline in MLT secretion. Recently, another hormone, the adrenal steroid dehydroepiandrosterone-sulfate (DHEAS), has appeared to exert antitumor effects similar to those previously described for MLT. In addition, experimental studies suggest a diminished DHEAS production with neoplastic progression. This preliminary study was performed to evaluate the daily secretion of DHEAS in a group of early and advanced cancer patients. The study included 70 patients with solid tumors (gastrointestinal tract tumors: 28; breast cancer: 24; non-small cell lung cancer: 18), 28 without and 42 with distant metastases. The serum levels of DHEAS were measured by RIA in blood samples collected in the morning. The control group consisted of 100 age- and sex-matched healthy subjects. No significant difference in mean serum levels of DHEAS was observed between controls and non-metastatic patients. In contrast, metastatic patients, irrespectively of tumor histotype, showed significantly lower mean levels of DHEAS with respect to either controls or non-metastatic patients. Moreover, metastatic patients with visceral locations showed significantly lower values of DHEAS than those with bone or soft-tissue metastases. This preliminary study would suggest there to be a deficiency in the daily DHEA secretion in patients with disseminated cancer. Further studies evaluating circadian DHEAS secretion in relation in that of the pineal hormone MLT will be required to better define the biological significance of the advanced cancer-related decline in endogenous DHEAS production.

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