

## ABSTRACT

This study was designed to investigate the effect of stress on cancer development and treatment, and also to determine whether there is any cancer associated personality profile. Human studies were supplemented by controlled animal studies. Twenty-nine male and female cancer subjects were studied along with twenty-nine controls. The animal study comprised ninety female Sprague-Dawley rats, which were divided into nine groups of ten. One group was treated with noise stress alone, while another group received no treatment at all. Three groups received the carcinogen 7,12-Dimethylbenz(a)anthracene together with either noise stress, cortisone acetate or 6-mercaptopurine and the rate of tumour growth in these animals was compared to a group that received only the carcinogen. Three other groups received the carcinogen, and after tumour growth these animals were subjected to chemotherapy. In addition to the chemotherapy, one of these groups received noise stress and another cortisone acetate. The stress level of the humans and animals was determined by physiological and psychological tests where applicable. The results of the human study revealed that the level of stress

among the cancer subjects was higher than among the controls. Even though in some cases cancer development occurred after an event that may be considered stressful, it was not easy to conclude whether stress occurred before or after the cancer development. The controlled animal studies revealed, though, that stress alone could not induce tumour development in the observation period of 280 days. Stress, however, influenced tumour growth when the rats were treated with the carcinogen. The findings of this study also suggested that immunosuppression might play a vital role in cancer development. A cancer associated personality profile, depicting among other things a schizophrenic character, was also detected among the human cancer subjects. The treatment of the cancer subjects who had high stress levels was less successful, and this was substantiated by the results of the animal study, which showed that stress decreased the life span of the animals receiving chemotherapy and stress. The findings of this study suggest that even though stress may not initiate tumour growth, stress influences the growth of potential tumour cells, and may interfere with the response to treatment.