

Study of Dermatoglyphic Fluctuating Asymmetry in Female Breast Cancer

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Abstract

Dermatoglyphic fluctuating asymmetry patterns are occasionally studied in cancer patients. The present examination covers 82 women with breast cancer and 60 healthy women from the region of Varna, Bulgaria. The dermatoglyphic examinations were performed by the method of Cummins and Midlo and the degree of the fluctuating asymmetry was assessed according to $1-r_2$ formula and $R-L/R+L$ formula. The comparison of the palmar ridge counts of a-b II, c-d IV and a-d revealed considerably higher fluctuating asymmetry values in breast cancer females than in healthy controls. There were greater correlation coefficient values of the fluctuating asymmetry ($1-r_2$) in the ridge count of the homologous thumbs, forefingers and little fingers of both hands but smaller ones of the third and fourth fingers of both hands in breast cancer females than in healthy controls. These traits could be used within a diagnostic algorithm for breast cancer screening among genetically predisposed female population.

Key words: dermatoglyphics, fluctuating asymmetry, breast cancer, region of Varna