

Micronucleus in exfoliated buccal mucosa cells of Mexican women with Breast Cancer

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Breast cancer is the most frequently diagnosed form of cancer and the leading cause of cancer death among females in the world. Increased number of micronucleus (MN) in exfoliated buccal mucosa cells (BMC) of patients with primary breast, lung and cervix uteri cancer has been observed compared to control subjects. Micronucleus (MN) originates from chromosomal fragments and/or whole chromosomes that are not included in the main daughter nuclei during nuclear division. MN frequency in BMC of Mexican women with primary breast cancer was evaluated in this study, including 30 never-treated cancer patients from the State Center of Cancer of Nayarit, and 60 females in the control group. Average age of participants was $(49.50 \pm 14.12$ and 50.35 ± 10.24 years for cancer patients and control subjects respectively). They signed an informed consent and were asked to complete a questionnaire concerning smoking habits, alcohol consumption, health status, diet and consumption of drugs or antioxidants. BMC were collected from both cheeks in each subject. Smears were air-dried, fixed in 80% ethanol and stained with acridine orange. Micronucleated cells (MNCs) were counted in 2,000 cells at 100 \times magnification using a microscope with epifluorescence. MNCs were scored according to the criteria established by Tolbert and the criteria recently described by Ceppi. Analysis of the data using the Mann-Whitney U-test showed significant increase of MNC number in breast cancer patients compared to control subjects ($p < 0.0001$). Cancer patients presented 1.67 ± 1.15 (0-4, rank) MN, and 0.80 ± 0.63 (0-2, rank) MN in control subjects. In conclusion, a genotoxic damage was observed in BMC of Mexican women with breast cancer.

Biography

Aurelio Flores-García obtained his Ph.D. in Immunology from the University of Guadalajara. He is currently a Professor and Researcher at the Autonomous University of Nayarit School of Medicine.