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Increased micronucleus frequency in exfoliated cells of the buccal mucosa in hairdressers

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ABSTRACT. Hairdressers are exposed daily to chemical substances, such as dyes, chemical straighteners and curling chemicals, which can be absorbed, inhaled or possibly ingested. We analyzed the frequency of micronuclei (MNC) in exfoliated cells of the buccal mucosa of 50 hairdressers and 50 controls in Pelotas, RS, Brazil. An assessment was carried out on the incidence of MNC, binucleated cells (BNC), broken egg cells (BEC), budding cells (BC), and the sum of anomalies (SA), in 2000 cells per individual. The data were analyzed with SPSS, using the Mann-Whitney U-test, $\alpha = 0.05$. The mean number of anomalies in hairdressers was 2.02 ± 3.60 MNC; 8.50 ± 5.07 BNC; 9.06 ± 3.83 BEC; 0.32 ± 0.62 BC, and 19.90 ± 9.61 SA; in controls it was 0.36 ± 1.06 MNC; 5.20 ± 4.73 BNC; 5.92 ± 2.67 BEC; 0.10 ± 0.36 BC, and 11.58 ± 6.67 SA; the differences for all parameters were significant. The non-occupational factors did not significantly influence the alterations. A significant increase of BEC ($P = 0.003$) was observed in the hairdressers and SA ($P = 0.033$) in females. The lowest income level influenced MNC ($P = 0.044$), and the habit of not smoking influenced SA ($P = 0.020$). We concluded that exposure to substances used by hairdressers is genotoxic for men.

Key words: Hairdressers; Micronucleus tests; Exfoliated cells; Micronucleus

