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Abstract

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Recently, regular and white mineral trioxide aggregate (MTA) are being used in Dentistry as retrofilling materials. Genotoxicity and cytotoxicity tests form an important part of cancer research and risk assessment of potential carcinogens. Thus, the goal of this study was to examine the genotoxicity and cytotoxicity of regular and white MTA *in vitro* by the single cell gel (comet) assay and trypan blue exclusion test, respectively. Mouse lymphoma cells were exposed to two presentation forms of MTA at final concentrations ranging from 1 to 1,000 µg/mL for 3 h at 37°C. The results showed that both compounds tested did not produce genotoxic effects at all concentrations evaluated. Likewise, no statistically significant differences ($p > 0.05$) were observed in cytotoxicity. Taken together, our results suggest that regular and white MTA are not genotoxins and are not able to interfere in cellular viability as assessed by single cell gel (comet) assay and trypan blue assay, respectively.

Keywords : Mineral trioxide aggregate; Genotoxicity tests; Comet assay; Trypan blue; Mouse lymphoma cells.

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