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Display Settings: Abstract[Anticancer Drugs](#). 1999 Apr;10(4):413-7.**Cytotoxic effects of two gamma linoleic salts (lithium gammalinolenate or meglumine gammalinolenate) alone or associated with a nitrosourea: an experimental study on human glioblastoma cell lines.**

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Abstract

Gamma linoleic acid (GLA) salts may exert a direct antiproliferative activity on tumor cells. The cytotoxicity is linked to the generation of conjugated dienes, peroxy radicals and superoxide radicals. Lithium gammalinolenate (LiGLA) and meglumine gammalinolenate (MeGLA) have been recently developed for enhancing the water solubility of these compounds. MeGLA or LiGLA (10^{-5} to 10^{-4} mol/l) and fotemustine (Fote) (2×10^{-6} to 2×10^{-4} mol/l) were applied, alone or in combination, for up to 9 days to two human glioblastoma cell lines A172 and U373MG. Fote was applied first followed by LiGLA and/or MeGLA. Cytotoxicity was evaluated by the MTT test, and the effects of drug combinations were analyzed by the isobolographic representation according to the Chou and Talalay method (combination indexes). For both GLA salts, cytotoxicity was manifested after 4 days of cell exposure and with very sharp dose-response curves. Comparison of IC50 values indicated that MeGLA was more active than LiGLA. There was a constant reduction in IC50 values following an increase in exposure time for A172 cells: between 4 and 9 days of cell exposure, IC50 changed from 73 to 46 microM for LiGLA and from 49 to 31 microM for MeGLA ($p < 0.05$). With U373MG cells, there was no influence of exposure duration on IC50 values. Combination index values indicated that association between Fote and GLA salts globally resulted in slightly antagonistic effects. These results may be useful for further development of GLA salts at the clinical level.

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