

## Effects of oleic, linoleic and $\gamma$ -linolenic acids on neutrophil migration

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Oils rich in oleic, linoleic and  $\gamma$ -linolenic acids have been employed for prevention and treatment of wounds. In this study, we postulated that these fatty acids could play a role in the healing process by controlling neutrophil chemotaxis. Herein, we investigate the effect of oleic, linoleic and  $\gamma$ -linolenic acids on rat neutrophil function: rolling, adherence, migration, air pouch influx and expression of L-selectin and  $\beta$ 2-integrin. Oleic, linoleic and  $\gamma$ -linolenic acids raised the influx of neutrophils into air pouches by 5.5-, 2.1- and 3.6- fold respectively, when compared to control. An increase of at least 1.8- fold of neutrophil L-selectin expression was observed by the treatment with the three fatty acids. In contrast, the fatty acids strongly inhibited fMLP-stimulated rolling, adherence and migration of neutrophils. The inhibitory effect of neutrophil influx into the air pouches was of 51%, 77% and 33% by treatment with oleic, linoleic and  $\gamma$ -linoleic acids, respectively. The inhibitory effect of the fatty acids on rolling was of at least 53% and on adherence of at least 46%. Our results showed that oleic, linoleic and  $\gamma$ -linoleic acids induced neutrophil migration but decreased it in response to fMLP. These findings support the proposition that these fatty acids and/or their metabolites are modulators of inflammation and maybe therapeutically used in diseases with impaired neutrophil chemotaxis. Financial Support: FAPESP, CAPES and CNPq.