Abstract

Edelfosine (ET-18-OCH₃) a Promising Alkylphospholipid against Resistant Trichomonas vaginalis †

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Edelfosine (ET-18-OCH₃) is an alkylphospholipid with an analogous structure to miltefosine. Both molecules are active against kinetoplastids (Leishmania spp., Trypanosoma cruzi and Trypanosoma brucei). However, its trichomonacidal effect has never been studied. For this purpose, edelfosine has been evaluated in vitro for its ability to inhibit proliferation of the common sexually transmitted parasite Trichomonas vaginalis following a standardized fluorimetric procedure. The results show an IC₅₀ = 19.8 µM against metronidazole-sensitive isolates and a remarkable IC₅₀ = 7.6 µM against the metronidazole-resistant IR78. This enhanced effect against the resistant isolate suggests another possible mode of action in comparison with the reference drug. Moreover, T. vaginalis exhibits a different growth rate due to the metabolic modifications according to its resistant trait. These results are in consonance with the trichomonacidal effect observed by other authors using the analog miltefosine against resistant samples, provoking membrane alterations and apoptosis. It is estimated that 2.5–10% of clinical cases of trichomonosis are produced by resistant isolates. The absence of pharmacological alternatives to the unique two 5-nitroimidazole drugs approved by the FDA makes necessary the incorporation of novel trichomonacidal drugs with a different mode of action. Taken together, our results, in consonance with previous reports, suggest the promising use of these alkylphospholipids as an alternative trichomonacidal drug against resistant cases.

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