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Abstract

Edelfosine (ET-18-OCH_3) a Promising Alkylphospholipid against Resistant *Trichomonas vaginalis* †

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† Presented at the 1st Molecules Medicinal Chemistry Symposium, Barcelona, Spain, 8 September 2017.

Published: 19 October 2017

Edelfosine (ET-18-OCH_3) 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 IC_{50} = 19.8 μM against metronidazole-sensitive isolates and a remarkable IC_{50} = 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.

Acknowledgments: This work was partially supported by SAF2015-66690-R and SAF2014-59716-R grants from the Spanish Ministerio de Economia y Competitividad.

Author Contributions: F.M. provided reagents and contributed to the implementation of the research, and to the analysis of the results. J.A.E. and A. G.-B. participated in the evaluation of the biological results and finally A. I.E. contributed in the development of the parasitic assays, interpretation of data and drafting the manuscript. All the authors participated in the final version.

Conflicts of Interest: The authors declare no conflicts of interest.