

Aromatic and Terpenic Compounds Loaded in Lipidic Nanocapsules: Activity against Multi-drug Resistant *Acinetobacter baumannii* Assessed in vitro and in a Murine Model of Sepsis.

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| R sum  en anglais | <p>Given the spread of multidrug resistance and the number of antibiotics in development, finding new antibacterial strategies becomes necessary. One of these strategies is to use extracts of essential oils that are a potential reservoir of effective antibacterial molecules. The objective of the study was to evaluate the possibility of administering to animal, mixtures of carvacrol and eugenol (phenols), cinnamaldehyde (aldehyde) and/or β-caryophyllene (alkene) encapsulated in lipid nanocapsules to provide an optimal bio distribution and antimicrobial efficacy. These suspensions were tested in vitro and the results showed an important antibacterial activity against <i>A. baumannii</i>, a multidrugresistant microorganism responsible for outbreaks in intensive care units, similar to the activity of non-encapsulated mixtures. Subsequently, the suspensions activities were assessed with a murine model of sepsis using the same <i>A. Baumannii</i> strain. These preliminary results showed a mice survival varying from 45% to 55%. It is the first time that antimicrobial essential oils can be administered intraperitoneally via nanomedicine. These results are encouraging and further studies are needed to pursue the development of this strategy.</p> |
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