Eastern Mediterranean Complementary Medicine Modulating Neuropathy and Inflammation

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Introduction

Eastern Mediterranean medicinal plants have long been utilized for immuno-modulation. Indian ginseng roots are among the important Eastern Mediterranean plants that are known for its antioxidant and neuroactive properties. The current research aims to perform an in-depth phytochemical analysis, to examine the Indian ginseng for its antinociceptive and anti-inflammatory potentials, and its possible mechanisms of action.

Materials and Methods

Various chromatographic(like, HPLC, and TLC methods) and instrumental analyses(like, UV, and MS) have been utilized to phytochemically analyze the Indian ginseng. Animal models for nociception (like, hot plate thermal neuropathy model) and inflammation (like, carrageenan induced edema model) have been used to analyze the anti-neuropathic and anti-inflammatory mode of action. Nano-formulated dispersions were utilized to examine the increase in efficacy compared to placebo.

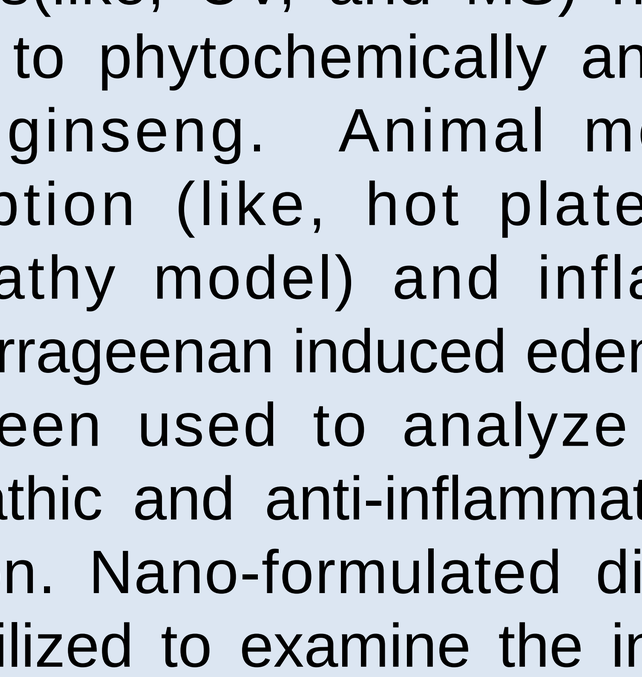

Figure 1. Indian Ginseng root.

Results

Indian ginseng has been shown to be rich in mixture of steroids (withanolides). The most active steroid when formulated into nano-dispersions have shown superiority as an anti-bacterial agent, and in the management of neuropathy, via thermal and tactile neuropathy animal models, and inflammation, via acute and chronic inflammatory-pain *in-vivo* models. The antinociceptive and anti-inflammatory mode of action of the Indian ginseng could be due to in-vivo-antioxidant potential and modulation of the inflammatory modulators.

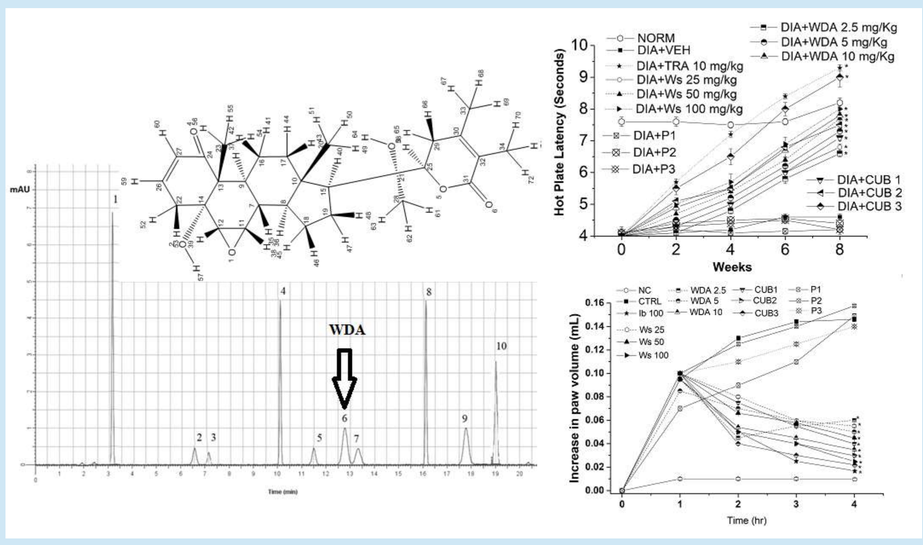

Figure 2. Indian Ginseng root: Left panel; HPLC, Right panel: Upper Right: Anti-neuropathic effect, Lower Right: Anti-inflammatory

Conclusions

This research aimed to perform an in-depth phytochemical analysis, to examine the Indian ginseng for its antinociceptive and anti-inflammatory potentials, and its possible mechanisms of action. In conclusion, Indian ginseng is one of the Eastern Mediterranean complementary medicines that could be utilized in modulating neuropathy and inflammation.

References

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