

EVALUATION OF ANTI-ALZHEIMER ACTIVITY OF THE AERIAL PARTS OF *SERRATULA CICHORACEA* (DC.) (ASTERACEAE)

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Introduction & Objectives:

The Asteraceae family is one of the largest families of flowering plants in the world [1], many species of this family possess medicinal properties and are used in traditional medicine [2]. *Serratula cichoracea* is a plant belonging to this family, we have studied its antioxidant activity previously and the results were positive [3], which encouraged us to continue studying it from a biological point of view.

Methodology (Material and methods):

The plant material were macerated and are subjected to mechanical extraction with EtOH-H₂O (70:30 v/v), the crude extract obtained was concentrated under reduced pressure and diluted with water. After filtration, the aqueous solution was extracted successively with solvents of different polarities in order to obtain the three organic extracts sought (CHCl₃, EtOAc, *n*-BuOH). The evaluation of the Anti-Alzheimer activity of these three organic extracts was carried out by the Ellman method [4], which uses acetylcholinesterase (AChE) and Butyrylcholinesterase (BuChE) enzymes. The inhibition of these two enzymes by the extracts was studied using the microplate assay and the reading was taken at 412 nm.

Results and Discussion:

The results showed that the ethyl acetate extract has a moderate inhibitory activity against BChE and AChE (104.24 ± 0.34 µg/mL and IC₅₀ > 200 µg/mL respectively) compared to galantamine used as a standard (IC₅₀ = 34.75 ± 1.99 µg/mL and IC₅₀ = 6.27 ± 1.15 µg/mL), followed by the *n*-butanol extract which showed slight BChE inhibitory activity.

Conclusion:

In this study, the anti-Alzheimer activity of the aerial parts of *Serratula cichoracea* (DC.) was determined. According to our results, the ethyl acetate extract is a natural inhibitor of butyrylcholinesterase, and from this, we can study the possibility of using it to treat this disease, knowing that all the drugs used act to inhibit this enzyme.

Keywords: Anti-Alzheimer, *Serratula cichoracea*, Asteraceae.

References

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