Toxic and immunomodultory activities of the dichloromethane extract of *Stachys circinata*

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Intrduction

Immunomodulation is the regulation and modulation of immunity either enhancing or reducing the immune response (Kumar *et al*., 2011). The use of medicinal plant products as immunomodulators as possible therapeutic measure is becoming a new subject of scientific investigations (Singh *et al*., 2012).

Objectives

The subject of our study was to evaluate *in vivo* the toxicity and the immunomodulatory effects *Stachys circinata* dichloromethane extract

Materials and methods

Plant material

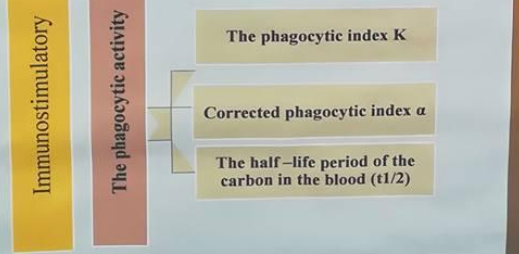
Aerial parts of *Stachys circinata* were collected from Djebel El-Ouahch-Constantine (North Eastern Algeria) in April 2005 during the flowering stage .The extract concentrations of 50 mg, 100 mg and 150 mg were used.

Animals

Adult male Mus musculus mice (2,5 -3 old months), weighing (28 -38g).

Methods

Up and down method (limit dose) was adapted (Elsnoussi *et al*.,2011). A single dose of 2000 mg/kg of the plant extract was given orally to 5 mice. The animals were observed for mortality and clinical signs for 14 days.



Results and discussions

The results showed that the dichloromethane extract of *Stachys circinata* at a dose of 2000 mg/kg caused neither visible signs of toxicity nor mortality. All five mice survived until the end of observation period.

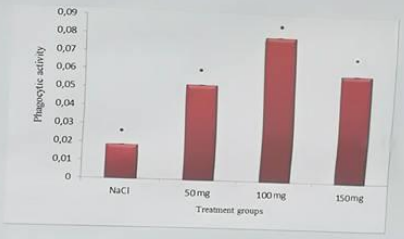


Fig 1: Effect of *Stachys circinata* extract on phagocytic activity.

In this study we observed that the animals administred with the plant extract stimulates the phagocytic index at different concentrations.So this results agrees with those of Gokani *et al* 2007 et Kehili 2014.

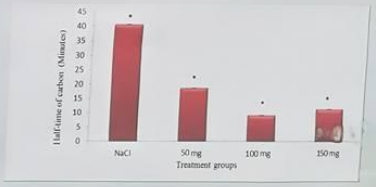


Fig 2: Effect of *Stachys circinata* extract on half-time t1/2 of carbon in blood.

Treatment by the plant extract enhanced the rate of carbon clearance from the blood when it is compared to the control group, this result agrees with those of Bharani *et al* 2010 et Aribi 2013.

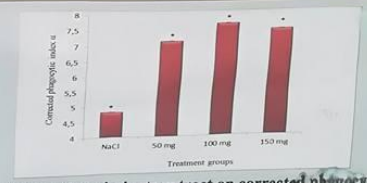


Fig 3: Effect of Stachys circinata extract on corrected phagocytic index α

CONCLUSION

The present study concluded that the dichloromethane extract of *Stachys circinata* has no toxicity and it holds an immuno-stimulatory effect on the reticuloendothelial system.

Perspectives