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HEPATOPROTECTIVE AND PHYTOCHEMICAL ACTIVITIES OF ACANTHOSPERMUM HISPIDUM DC (ASTERACEAE) EXTRACTS

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Objective: To evaluate the hepatoprotective potential of the two forms of *Acanthospermum hispidum* extract on animal models and to perform phytochemistry, as well as the antioxidant capacity of extracts *in vitro* and in vivo.

Methodology: The ethanolic and aqueous extracts of the whole plant of *Acanthospermum hispidum* were used for the evaluation of hepatoprotection. The hepatotoxin used in our case was diethylenitrosamine (DEN) at a dose of 200 mg/kg body weight. The animals were divided into packs of six including a normal lot, a positive control lot, a negative control lot and test lots (different doses of extract).The sera of the treated animals were used for the determination of transaminases (ASAT and ALAT) and liver homogenates for the determination of antioxidant enzymes (catalase, superoxide dismutase and malondialdehyde). The total phenol and total flavonoid contents, and the antioxidant properties of the extracts were evaluated *in vitro*.

Observations: The results of the *in vitro* antioxidant tests showed a good antioxidant activity of the ethanolic extract through the DPPH test (0.08±0.0018 µg/mL) and ABTS (246.05±1.55 mM ET/g d 'extract). In vivo tests showed that the ethanolic extract has a good hepatoprotective capacity through the evaluation of antioxidant enzymes, biochemical parameters (ASAT and ALAT) and histopathological studies.

Conclusion: The in vivo antioxidant activity and *in vitro* extracts of *Acanthospermum hispidum* would justify the observed hepatoprotective activity. Thus, these results confirm the use of the plant in the treatment of liver diseases in traditional medicine in Burkina Faso.

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