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SCNS. 07. Study of the regenerative effect of *Caesalpinea ferrea martius* aqueous extract in experimental sciatic neuropathy

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Introduction: Nerve injury promotes various pathological phenomena including axonal disruption with motor or sensitive dysfunction, demyelination, neuronal apoptosis, and pain. Infusion of the aqueous extract from *Caesalpinea ferrea* (EACF) has been found to improve analgesic, motor, and sensory functions following sciatic nerve injury. The anti-inflammatory effects of this extract have been reported in the rat paw edema model. **Objectives:** The present study aimed to evaluate the EACF regenerative effects in an experimental model of neuropathy induced by chronic constriction of the sciatic nerve in Wistar rats. **Methods:** Experiments were conducted at the laboratory of Physiology and Pharmacology, Federal Rural University of the SemiArid. Thirty-two rats were divided into three groups of eight animals each: the sham group (pseudo-surgery), neuropathic saline group (three soft ligatures in the right sciatic nerve, and then treated with saline) and the EACF group (three soft ligatures in the right sciatic nerve, and then treated with 300mg of EACF). EACF was given by gavage, daily for 12/12 hours. Animal reflexes were observed and recorded weekly in the right hind limbs, including flexor, toe spreading, and toe pinch reflexes. Scores were quantified from zero (no response) to nine (maximum reflex response). After 21 days, animals were euthanized and the sciatic nerves were collected for histological studies. **Results:** Flexor, toe spreading, and cutaneous withdrawal (toe pinch) reflexes of the neuropathic EACF-treated group were much higher when compared to the control neuropathic saline group ($p<0.05$), in the second and third week. Regarding HE histology, the neuropathic EACF-treated group showed a marked remyelination improvement and better axonal integrity, with reductions of endoneurium inflammatory cells and edema when compared to the challenged saline control group. **Conclusions:** The behavioral and histological findings noted above strongly suggest a regenerative effect of the EACF using the sciatic neuropathy model.

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