# **Titre d’article**: CHEMICAL ANALYSIS, ANTIOXIDANT, ANTI-INFLAMMATORY AND ANTINOCICEPTIVE EFFECTS OF ACETONE EXTRACT OF ALGERIAN SOLENOSTEMMA ARGEL (DELILE) HAYNE LEAVES

**Abstract :**

Objective: To investigate the qualitative composition of the acetonic extract from leaves of S. argel (AESA) and their anti-inflammatory and analgesic properties in vivo. Methods: AESA profile was established by UHPLC/DAD/ESI-MS2. AESA was subjected to the acute oral toxicity study according to the OECD-420 method. Antioxydant activity of AESA was performed by DPPH radical scavenging assay. Anti-inflammatory effects of AESA were determined in two animal models: carrageenan-induced paw edema in rats and cotton pellet-induced granuloma formation in rats. Further, anti-nociceptives activities of AESA were assessed by hot plate test, acetic acid-induced abdominal writhing test and formalin test. Results: The in vivo AESA toxicity was low. AESA expresses a maximum radical scavenging activity with a IC50 value of 36,05 μg/ml. The AESA at 250 and 400 mg/kg significantly reduced carrageen an induced paw edema by 70.09% and 85.53% 6h after carrageenan injection, respectively. AESA produced significant dose-dependent anti-inflammatory effect against cotton pellets-induced granuloma formation in rats. In addition, AESA at 250 and 400 mg/kg significantly reduced acetic acid-induced writhing by 56.83 and 80.41%, respectively. Oral administration of 250 and 400 mg/kg of AESA caused a significant dose dependent anti-nociceptive effect in both neurogenic and inflammatory phases of formalin-induced licking. AESA also impacted the pain latency in the hot plat test. Conclusion: These data suggest that AESA possesses antioxidant, anti-inflammatory and anti-nociceptive effects. These results support the traditional use of S. argel to cure pain and inflammatory diseases in the Algerian Sahara