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Anti-inflammatory activity of the volatile oil of *Raphia australis* pulp

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Anti-inflammatory activity of the volatile oil of *Raphia australis* pulp: This is a measure of the ability of the volatile oil of *Raphia australis* to inhibit inflammation and thus be used in the management of inflammatory disorders. Inflammation is the immune response of the body to thermal, mechanical, microbial or chemical injury. The volatile oil of *Raphia australis* was extracted in hexane using Clevenger apparatus, after which the GC-MS analysis of the oil was carried out. The anti-inflammatory test was done using four groups (1, 2, 3, and 4) of rats comprising six rats per group. Group one were administered normal saline (0.09% v/v NaCl) while group1, 2 and 3 were administered 40 mg/kg (volatile oil), 80 mg/kg (volatile oil) and 100 mg/kg aspirin, respectively. Inflammation was induced in all the groups using lipopolysaccharide thirty minutes after treatment by gavage. The major constituents obtained from the GC-MS analysis of the volatile oil are: n-hexadecanoic acid (34.0%), tetradecanoic acid (9.5%), terpinolone (9.1%), dodecanoic acid (9.6%), hotrienol (8.8%), alpha-terpine-1,4-diene (8.0%), trans-benzalacetone (8.2%), lauric acid (9.6%). It can be concluded that the 80 mg/kg dose of the oil showed a significant anti-inflammatory effect ($P<0.01$) when compared to 100 mg/kg of aspirin ($P<0.01$). The analgesic activities of aspirin ($P<0.05$) and the 80 mg/kg dose ($P<0.05$) of the oil were only significant in the inflammatory phase of the analgesic test. This work, therefore, justifies the use of hexadecanoic acid- rich oil in the management of arthritis in Indian Ayurvedic traditional medicine.

Biography

Muyiwa Arisekola is a Student Researcher. He finished his Bachelor of Technology degree in Applied Chemistry. His vision is to parlay his passion for Organic Chemistry into a career in Natural Products Chemistry with a view to drastically minimizing the side effects associated with the use of drugs in the management of diseases.

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