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Anti-inflammatory effects and the molecular pattern of the therapeutic effects of dietary seeds of *Adenantha Pavonina* in albino rats

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ABSTRACT

Adenantha pavonina is a woody specie of Leguminosae-Mimosiodaea that is widely present across the globe. Little attention has been given to the dietary importance of the seeds, which have been linked with the traditional management of inflammatory conditions and several other diseases. This study determines the anti-inflammatory potential and the molecular effects of consuming the seeds compared to the commonly eaten *Vigna unguiculata* (cowpea). The control, group administered with 10 g (AP-10), 20 g (AP-20) and 30 g (AP-30) of *A. pavonina* based diets; and those previously induced with inflammation administered with 20 kg of *V. unguiculata* (BK/BM), normal saline (K-Sal), 20 g *A. pavonina* based diet (K-AP) and indomethacin (K-Ind) were examined for cyclooxygenase (COX-2), tumor necrosis factor (TNF- α), soluble intracellular adhesion molecule (sICAM) levels in the serum and the effect of diets on the integrity of DNA using RAPD PCR analysis for monitoring their anti-inflammatory activity and the molecular effects. AP-30 based diets significantly reduced ($P<0.05$) serum sICAM-1 levels compared to that of cowpea. *A. pavonina* and *V. unguiculata* diets exhibited similar ability to significantly reduced ($P<0.05$) the serum sICAM level of the inflammation induced rats compared with the K-Sal group. Both diet from *A. pavonina* and *V. unguiculata* significantly increases ($P<0.05$) COX-2 activity and the restoration of TNF- α activity. *A. pavonina* can act as a preventive food for inflammation and other diseases without damaging the DNA integrity in the kidney, liver and the heart.

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