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Antiarthritic Activity of Pacar Air (*Impatiens balsamina* Linn.) Herb Extract in Animal Model of Rheumatoid Arthritis – An Autoimmune Disease

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Abstract: The objective of this study was to investigate the activity of *Impatiens balsamina* herb in animal model of rheumatoid arthritis. The active compounds of leaf and stem of *Impatiens balsamina* Linn. were extracted using ethanol 96% by maceration method. Anti-arthritis activity of the test extracts was determined in rat adjuvant-induced arthritis (AIA) model. The rats were injected with Complete Freund's Adjuvant (CFA) intraplantarly to induce arthritic animal model. The anti-arthritic effect of the extracts was determined by measurement of the paw volume, joint edema, and TNF- α levels determined using ELISA technique. The rats were successfully arthritis induced using 0.25 mL of CFA. The administration of extract for 14 days started from day 8th during chronic arthritic condition significantly ($p < 0.05$) reduced the total volume of paw and joint edema while no effect on body weight. Highest inhibition percentage was caused by high dose of *Impatiens balsamina* extract (500 mg/kg bw) with inhibition percentage for paw and joint edema were 29.6% and 24.9%, respectively. The TNF- α levels in all doses of extract groups decreased and significantly lower ($p < 0.05$) compared to that of control. *Impatiens balsamina* extract has immunosuppressive activity and able to reduce arthritis symptoms in adjuvant induced arthritis rat model. *Impatiens balsamina* extract also has the activity to minimize symptoms of arthritis, so it is a potentially alternative drug for rheumatoid arthritis.

Keywords: Complete Freund's Adjuvant (CFA), *Impatiens balsamina*, rheumatoid arthritis, TNF- α .