

عنوان مقاله:

The effect of hydro-ethanolic extract of *Curcuma longa* rhizome and curcumin on total and differential WBC and serum oxidant, antioxidant biomarkers in rat model of asthma

محل انتشار:

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خلاصه مقاله:

Objective(s): The effects of *Curcuma longa* (*C. longa*) and curcumin on total and differential WBC count and oxidant, antioxidant biomarkers, in rat model of asthma were evaluated. **Materials and Methods:** Total and differential WBC count in the blood, NO₂, NO₃, MDA, SOD, CAT and thiol levels in serum were examined in control, asthma, Asthmatic rats treated with *C. longa* (0.75, 1.50, and 3.00 mg/ml), curcumin (0.15, 0.30, and 0.60 mg/ml), and dexamethasone (1.25 µg/ml) rats. **Results:** Total and most differential WBC count, NO₂, NO₃ and MDA were increased but lymphocytes, SOD, CAT and thiol were decreased in asthmatic animals compared to controls ($P < 0.001$). Total WBC, NO₂ and NO₃ were significantly reduced in treated groups with dexamethasone and all concentrations of *C. longa* and curcumin compared to asthmatic group (*C. longa* and curcumin ($PP < 0.001$)). There were significant improvement in eosinophil percentage due to treatment of highest concentration of the extract and curcumin, neutrophil and monocyte due to highest concentration of curcumin and lymphocyte due to highest concentration of the extract and two higher concentrations of curcumin compared to asthmatic group ($PP < 0.001$). Dexamethasone treatment improved monocyte ($P < 0.001$) and lymphocyte ($P < 0.01$) percentages. **Conclusion:** Antioxidant and anti-inflammatory effects of *C. longa* extract and its constituent curcumin in animal model of asthma was observed which suggest a therapeutic potential for the plant and its constituent on asthma.

کلمات کلیدی:

Curcuma longa, Curcumin, Inflammation, Oxidative stress, Rat model of asthma, WBC

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