ABSTRACT

Recent studies have shown that Pb could disrupt tissue prooxidant/antioxidant balance which lead to physiological dysfunction. Natural antioxidants are particularly useful in such situation. The green tea *(Camellia sinensis)* is an antioxidant scavenger of free radicals and chelator of heavy metals.

This study was designed to investigate efficacy of ethyl acetate fraction from green tea leaves of MDA and SOD activity in erythrocytes caused by oral Pb administration in rats. 30 subjects of adult male rats were divided into 6 groups (each 5 rats). $K_{(+)}$ group as a positive control (oral 33.75 mg/bw ethyl acetate fraction from green tea leaves for 4 weeks), K group as a normal control, $K_{(-)}$ group as a negative control (oral 15.82 mg/day lead acetate for 4 weeks), P1 group (oral 22.5 mg/bw ethyl acetate fraction from green tea leaves and 15.82 mg/day lead acetate for 4 weeks), P2 group (oral 33.75 mg/bw ethyl acetate fraction from green tea leaves and 15.82 mg/day lead acetate for 4 weeks), and P3 group (oral 45 mg/bw ethyl acetate fraction from green tea leaves and 15.82 mg/day lead acetate for 4 weeks).

The results showed Pb exposure can induce increased MDA levels and decrease SOD activity in erythrocyte cell of rats. The administration of ethyl acetate fraction from green tea leaves significantly reduced MDA levels and increased SOD activity in Pb-exposed erythrocytes cells of rats, and **the optimal dose of for** ethyl acetate fraction from green tea leaves scavenger of free radicals and chelator of heavy metals is 22.5 mg/bw/day (P1). These results indicated that administration of ethyl acetate fraction from green tea leaves *(Camellia sinensis)* may have a role to play in modulating oxidative stres in Pb-exposed erythrocyte cells, but at higher concentrations of ethyl acetate fraction from green tea leaves *(Camellia sinensis)* showed prooxidant activity.

Key words: Ethyl acetate fraction from green tea *(Camellia sinensis)* leaves**,** MDA**,** SOD**,** Lead acetate, Rat erythrocytes.