ABSTRACT

The present study was undertaken to evaluate the antitumor activity and antioxidant status of *Terminalia catappa* against Ehrlich ascites carcinoma (EAC) in swiss albino mice and its effect on lipid profile in transplanted fibrosarcoma in wistar albino rats. EAC induced in mice by intraperitoneal injection of EAC cells 1×10^6 cells/mice. The present study deals with life span of EAC-bearing hosts, peritoneal cell count, hematological profile, solid tumor mass and biochemical parameters such as lipid peroxidation (LPO), reduced glutathione (GSH), superoxide dismutase (SOD) and catalase (CAT) activities. Ethanolic extract of dried leaves powder of *Terminalia catappa* at oral dose of 200 mg/kg, prolong the life span of EAC-tumor bearing mice and cause significant increase in no. of peritoneal cell count and significant decrease in volume of solid tumor mass compared to EAC bearing control animals. Hematological profile including RBC count, WBC count, Hemoglobin and protein estimation were found to be nearly normal levels in extract-treated mice compared to tumor bearing control mice. *Terminalia catappa* significantly decreased the levels of lipid peroxidation, reduced glutathione and significantly increased the levels of SOD and catalase in treated group of animals. Methylcholantherene induced fibrosarcoma was transplanted in rats. After 11^{th} day when tumor became palpable, started the treatment of ethanolic extract of *Terminalia catappa* at oral dose 250 and 500 mg/kg, for a period of 20 days. The blood sample was collected on 21^{st} day and the liver and the kidney were also removed for studying the lipid profile in serum and the tissues. The levels of total cholesterol, triglycerides and VLDL were markedly changed in the serum, liver and kidney of tumor bearing rats. These changes were significantly reversed in treated animals at oral dose of plant extract 500 mg/kg. The results

indicate that ethanolic extract of dried leaves powder of *Terminalia catappa* exhibited significant antitumor and antioxidant activity in EAC-bearing mice. The reversal of altered lipid to normal values by ethanolic extract of *Terminalia catappa* in rats with experimentally induced tumor further supports the antitumor potential of *Terminalia catappa*.

Keywords: - Ehrlich ascites carcinoma, Antioxidants, Fibrosarcoma, *Terminalia catappa*, Lipid profile.