



Research article

Evaluation of antitumor and anticancer activity of 4-amino benzoic benzoyl benzimidazole in ehrlich's ascites carcinoma induced male swiss mice

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Key words: 4-amino benzoic benzoyl benzimidazole, Cancer, Carcinoma, Ehrlich ascites carcinoma.

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Abstract

Experimental tumors by Ehrlich ascites carcinoma have gained attention for the induction of carcinoma in swiss albino mice. Cancer is one of the most emerging life threatening factors in developing countries. Presently various benzimidazole derivatives have drawn the attention as most active heterocyclic compounds with various pharmacological activities. In the present study, the benzimidazole derivative, 4-amino benzoic benzoyl benzimidazole (4ABBB) was synthesized and acute toxicity (LD_{50} = 250mg/kg body weight which was administered orally) of 4ABBB on swiss albino mice were determined. The protocol started with the tumor induction in animals by inoculating 2×10^6 tumor cells and then they are divided into five groups of ten animals each. After 24 h of transplanting, the drug was administered intraperitoneally at a dose of 20mg/kg and 10mg/kg body weight and 20 mg/kg bodyweight 5-Fluorouracil as reference drug. At the tenth day, half of the 18 h fasted animals were sacrificed and i.p fluid was collected to determine tumor volume, weight, viable (cancer) and nonviable (dead) cell count. Blood was collected to determine hemoglobin concentration, RBC count, WBC count and percentage of packed cell volume. Half of the remaining animals in each group were kept for assessing percentage increase in life span (ILS) and mean survival time. 4ABBB showed a significant improvement in a dose dependent manner especially, reduction in viable cell count ($P < 0.001$), RBC count and hemoglobin concentration and improvement in percentage of life span which is comparable with 5-Fluorouracil.