

Anti-Tumor Activity of *Irathaka kaariya kulikai* in Dalton's Lymphoma Ascites Tumor Model

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Abstract

Siddha System of Medicine is one of the oldest Medical Systems in India and Sri Lanka. It is popularly known for the treatment and management of Chronic Non-Communicable Diseases. *Irathak Kaariya Kulikai* (IKK) is a Siddha Formulation. It contains Hydrargyrum, Plumbum, Magnetic oxide of iron, Ferroso Ferric oxide, *Cassia auriculata*, *Cocus nucifera* and *Indigofera tinctoria*. The present study was designed to evaluate the anti-tumor activity of IKK against Dalton's Lymphoma Ascites (DLA) tumor model. Dalton's Lymphoma (DLA) cell was obtained by Amala cancer research center, Trissur, Kerala, India. The cells maintained in vivo in Swiss albino mice by intraperitoneal transplantation. While transforming the tumor cells to the grouped animal the DLA cells were aspirated from peritoneal cavity of the mice using saline. The cell counts were done and further dilution were made so that total cell should be 1×10^6 , this dilution was given intraperitoneally and allow the tumor to grow in mice before seven days of starting the experiment. The IKK at the dose of 200 mg/kg in DLA tumor bearing mice significantly inhibited the tumor volume, packed cell volume, tumor (viable) cell count, and brought back the haematological parameters to more or less normal levels. IKK has the property to decrease the nutritional fluid volume and arresting the tumor growth increases the lifespan of DLA bearing mice. Treatment with IKK brought back the haemoglobin (Hb) content, RBC and WBC count more or less to normal levels significantly. This clearly indicates that IKK possess protective action on the hematopoietic system. It was reported that the presence of tumor in the human body or in the experimental animals is known to affect the function of the liver. The significant reversal of the function of the liver towards the normal by IKK treatments. In the present study, the biochemical examination of DLA inoculated animals showed marked changes indicating the toxic effect of the tumor. The normalization of these effects observed in the serum treated with IKK supported the potent antitumor and hepatoprotective effect of the IKK.

Keywords: Irathak Kaariya Kulikai, Anti-tumor activity, Dalton's lymphoma, Siddha Medicine