

ABSTRACT

Berberis aristata (Indian Barberry) is an important medicinal plant used as ayurvedic medicine since ages. It has antimicrobial, anti diabetic, anti oxidant, anti proliferative properties. We studied anticancer effect of *Berberis aristata* (Indian Barberry). Plant root extract was prepared, cytotoxicity assay was applied. Anti oxidant properties were analyzed by seeing expression analysis of cell cycle specific markers through qPCR. With the increase in concentration of plant root extract relative to control expressions of *p53, p21, cas 4, cas5 and cyt c* were decreased. Our results showed that the increasing concentrations of *B. aristata* extract have the ability to kill liver cancer cells. *B. aristata* can decrease the cell proliferation markers (*p53&p21*) in liver cancer cells. *B. aristata* can decrease the antioxidation markers (*cas 4, cas5&cyt c*) in liver cancer cells. All these evidences suggested that *Berberis aristata* extracts are potent tools to be used against cancers and it has potential to be used for liver cancer therapies in future.