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Homeopathy is a holistic method of treatment which uses ultra-low doses of highly diluted natural substances originating from plants, minerals or animals and is based on the principle of "like cures like." Dr. Samuel Hahnemann, a German physician, was the proponent of this method of treatment in the later part of the eighteenth century. This system uses both crude extracts and ultra-low doses of highly diluted and potentized form of remedies. Many of the latter group do not contain any original drug molecules and only believed to contain molecular imprints, according to some researchers. Despite being occasionally challenged for its scientific validity and mechanism of action, homeopathy continues to enjoy the confidence of millions of patients around the world who opt for this mode of treatment. Literature review suggests that there has been a spurt of research activities in homeopathy in recent years, at clinical, physical, chemical, biological and medical levels with acceptable scientific norms and approach. Contrary to skeptic views, research in homeopathy using modern tools, mostly tends to support its efficacy and advocates new ideas towards understanding its mechanism of action.

Cancer is a dreadful disease of uncontrolled growth and division of cells. Millions of people die of this disease around the world. Efforts to control and eradicate this disease are on by every discipline of treatment, but till date there is no definite success if the disease has advanced to a certain extent. Only early detection and surgical intervention and subsequent chemotherapy or radiotherapy have been successful in some form of cancer. Therefore, search is still on to find out suitable medical intervention, and complementary and alternative medicines (CAM therapy) are also being tried to give a better quality of life to cancer patients if not to give them full cure. Therefore, in the present investigation, a homeopathic remedy which has been claimed to have pronounced action on liver and some other organs (selected depending on symptoms generated by primarily liver disorders), has been tested by utilizing several currently used and widely accepted scientific protocols, which have sufficient relevance to and implications on hepatotoxicity. This was because the experimental animals, mice (Mus musculus) were chronically fed two
known carcinogens, p-dimethylamino azobenzene (p-DAB, initiator of cancer) and Phenobarbital (PB, promoter of cancer), and were sacrificed at several fixation intervals, like at 30, 60, 90 and 120 days. After 60 days, generally tumor nodules appeared in liver of some mice and subsequently, at 90 and 120 days, in the drug unfed or p-DAB+PB+alcohol (being the vehicle of the drug, positive control) fed mice, practically all the treated mice developed liver tumors, some of them might possibly have neoplastic growth.

Several cytogenetical protocols like chromosome aberrations (CA), micronuclei (MN), and mitotic index (MI) of bone marrow cells and sperm head abnormality (SHA) were analyzed in drug fed series (Mynca cenfera mother tincture, Mynca cenfera-30 and Mynca cenfera 200 individually and combinedly with either of two other homeopathic drugs — nosodes namely, Carcinosin 200 and Cholestennum 200) vis-a-vis controls. In the same way, some biochemical parameters (mostly accepted biomarkers) like Aspartate amino transferase (AST), Alanine amino transferase (ALT), Acid and Alkaline phosphatases (AcP and AlkP), lipid peroxidation (LPO) and reduced glutathione (GSH) contents were tested in drug fed and control mice. These assay protocols were adopted in liver, spleen and kidney tissues, and also in blood serum. Some other enzymes like catalase and succinate dehydrogenase were also analyzed in drug fed and control mice. Apart from these, electron microscopic studies on liver, the target organ of the carcinogens, were also done by both scanning and electron microscopies. Although Comet assay was attempted to test the DNA damage, if any, during the tumorigenesis, only preliminary results, that need further testing, have also been included.

Results of all these studies suggested that Mynca cenfera had anti-tumor, anti-hepatotoxic and anti-genotoxic potentials in mice chronically fed p-DAB and PB. Therefore, further works are warranted to examine such homeopathic remedies by other researchers to verify these results and confirm (or refute) our findings.