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Therapeutic potential of ascaridole through interference of binding sites of topoisomerase I, epidermal growth factor receptor and SOD for the treatment of kidney disorders

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Objectives: Ascaridole was the best antihelmintics for the treatment of ascarids and hookworms for humans in the 1900's. Ascaridole have been used in the traditional and modern medicine for the treatment of antihelmintics and other disorders. There are numerous disorders and anything that can cause oxidative stress in normal body cell to abnormality can also cause kidney diosorders.

Methods: Due to beneficial effect of ascaridole, present investigation deals the study related to basic application of ascaridole for their activity against kidney disorders through various model. Further to understand their beneficial effect on kidney in better way, molecular docking study have been performed to the binding sites of topoisomerase I, epidermal growth factor receptor, SOD and catalase know about their form of interactions and binding energy. All the presented data have been thoroughly analyzed and presented through different statistical methods.

Results: From the analysis of all the presented data, ascaridole revealed their effectiveness against kidney disorders. Data analysis of literature work revealed their anti-oxidant potential in different cell line. Molecular docking study also suggests that ascaridole interfere binding sites of topoisomerase I, epidermal growth factor receptor and SOD. According to the results of the docking study, best fit to the binding pocket of topoisomerase was shown by the ascaridole.

Conclusions: Present work will be beneficial to the researcher in the field of medicine and other allied science for the development of medicine against various forms of kidney disorders through ascaridole.