

Abstract Type : Poster

Abstract Submission No. : PO-1228

**Therapeutic potential of cephaeline for the treatment of kidney disorders:
Medicinal importance and pharmacological study through inhibition of
xanthine oxidase and nuclear factor kappa B (NF-κB)**

Kanika Patel, Dinesh Kumar Patel

Department of Department of Pharmaceutical Science, Sam Higginbottom University of Agriculture, Technology and Sciences, Payagraj, India, India

Objectives: Kidney failure is one of the most common disorders affecting a huge population of world and for the treatment of kidney related disorders, currently different herbal based preparation and their secondary metabolites have been used. xanthine oxidase and nuclear factor kappa B (NF-κB) are the enzymes responsible factor for the development of kidney disorders. Therefore the search for potent xanthine oxidase and nuclear factor kappa B inhibitors has attracted major scientific peoples in the world attention in recent years.

Methods: In order to develop better molecule for the treatment of kidney disorders, important data of cephaeline have been collected and analyzed to understand their importance in kidney disorders in the present work. Pharmacological application and their important medicinal application have been investigated. Cephaeline was assessed for their potential as xanthine oxidase and nuclear factor kappa B inhibitors targeted in kidney disorders. Molecular docking studies were carried out to investigate the binding mode of cephaeline with the active site of the xanthine oxidase and nuclear factor kappa B. To find out structure-activity relationship absorption, distribution, metabolism, and excretion (ADME) studies of cephaeline were also performed and all the presented data were statistically analyzed.

Results: The molecular docking studies showed that cephaeline well accommodate in the active site of the xanthine oxidase and nuclear factor kappa B. *In silico* study showed better interaction between cephaeline and xanthine oxidase and nuclear factor kappa B and found to show valuable interactions with the target protein along with good docking scores. These interactions help in understanding the importance of cephaeline for the treatment of various forms of urinary disorders in the research field of new drug discovery and designing.

Conclusions: Present study results confirmed therapeutic potential of cephaeline which could be used for the development of newer medicine against various forms of kidney disorders.