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Reno-protective effects of herbal medicines: Introducing a systematic approach towards reliable therapeutic effect (I'START)

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Increasing concerns today about the beneficial effects of herbal medicines necessitate establishing a proper system allowing us of having a standardized herbal medicines with consistent quality that have high reliability in clinical trials and therapeutic use. This study represents an ideal complete project that aimed to introduce and apply such system through systematic oriented research that ultimately lead to introduce a herbal-based therapeutic agent that could be used to fill the therapeutic gap in disease management.

Orthosiphon stamineus is being used in south East Asia in the management of different ailments including kidney problems, hypertension and diabetes. This herb was chosen by the Malaysian ministry of health to introduce and apply the systematic approach of drug discovery to propose a quality consistent well-defined herbal extract that could be introduced ultimately as a therapeutic agent in the management of nephrolithiasis and to act as renoprotective agent.

Kidney stone (Nephrolithiasis) was considered as one of the important factors that lead to the blockage of urine passage out of the body (urinary obstruction) and eventually acute kidney failure. Nephrolithiasis is multi-factorial disease that involves metabolic and non-metabolic factors. Moreover, geographical location plays a role in the prevalence of nephrolithiasis in different parts of the worlds that was higher than the role played by ethnic variations. This role can be represented in the presence of variance metabolic factors that contribute to disease pathogenesis. Consequently, this has a significant reflects on the treatment approach and recurrence preventive measures in different locations.

Nephrolithiasis treatment goes through two approaches, control symptoms and then get rid of the stone through known procedures. However, in conjunction with the different factors that lead to nephrolithiasis, no single medicine was available so far to cover all or even most of the contributed factors. This creates a gap in nephrolithiasis management, especially stone recurrence.

Different models have been postulated to mimic the pathogenesis of nephrolithiasis. Some of these models gathered at the concept of insulting kidney with one of the chemicals that lead to the stone formation. Among these models, ethylene glycol which serves as one of the important models that reflect the effectiveness of different chemicals and natural agents in protecting kidney from total calcification and renal failure. Different models have been used in our study to elaborate the diuretic, hypouricemic and anti-lithiatic effects of standardized extract of *O. stamineus* leaves and its role in kidney protection. Mechanisms were discussed and the responsible components were identified.

Biography

Osama Arafat has completed his BPharm at the age of 20 years and then MSc & PhD in pharmacology at the age of 28 from University Science Malaysia. His inventions in 2000 were the basic for establishing one of the famous herbal medicine companies in Malaysia. He was the director of one of the research based companies in Malaysia and was awarded the Malaysian Permanent Residence in 2011 based on his contributions. The total of his publications and editing exceed 20. He supervised two PhD projects that provide a unique contribution in the nanotechnology medicine and clinical oncology.

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