



AVIS DE SOUTENANCE D'UNE THESE DE DOCTORAT

Le Doyen de la Faculté des Sciences a le plaisir d'informer le public qu'une soutenance de
thèse de Doctorat en

«**Sciences de la vie et de l'environnement**»

aura lieu le 02/07/2024 à la Faculté des Sciences, Kénitra

La Thèse sera présentée par Mr MILOUD CHAKIT

Sous le thème :

Urolithiasis: Epidemiological, clinical, ethnobotanical and experimental study

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Sujet de thèse :

Urolithiasis: Epidemiological, clinical, ethnobotanical and experimental study

Abstract:

Urolithiasis (UL) is a common pathology that affects between 5 and 20% of the population depending on the country and region. The aim of the work of this thesis is to determine the epidemiological profile of urolithiasis through a retrospective and prospective study, to inventory the medicinal plants traditionally used by patients with LU in the Gharb region (Morocco) and to evaluate the litholytic effect of a plant chosen on the basis of an ethnobotanical study in the Gharb region. The epidemiological and clinical study was carried out at the El-Idrissi Regional Hospital and the Electroschock wave Lithotripsy (ESWL) Center in the city of Kenitra. In the retrospective study, From January 2008 to December 2011, 570 cases of patients were hospitalized, patient's gender and age, size and localization of the stones and the occurrence of urinary tract infection (UTI) were recorded. In the prospective study, 50 urinary stones collected from patients were subject to a morpho-constitutional classification and chemical analysis by spectroscopy IR, RAMAN and X-ray diffraction. The results showed a predominant prevalence of renal and ureteral lithiasis. The peak age of affected patients was between 40 and 50 years old with a male preponderance. Urinary infections were common. ESWL has emerged as a treatment of choice for the elimination of stones in the population of our region. UL in the Gharb region is generally of the calcium oxalate type.

The ethnobotanical study of medicinal plants used in the treatment of UL in this region included 50 herbalists and 166 patients with urolithiasis belonging to the study region, interviewed using a structured questionnaire. The study made it possible to identify 42 plant species belonging to 24 families, mainly Apiaceae (16.66%) Lamiaceae (11.9%) were used to treat UL in the area. *Herniaria hirsuta* (Hh) and *Ziziphus lotus* (Zl) have been repeatedly mentioned by patients and herbalists as the most used for the management of UL in this region. Phytotherapy is commonly practiced by the population of the region.

The experimental study of the antiurolithiatic effect of *Ziziphus lotus* was conducted on animal of ethylene glycol-induced urolithiasis in male Wistar rats. Acute toxicity assessment of aqueous extract of *Ziziphus lotus* (AEZL) showed a safe dose of 150mg/Kg. The curative and preventive effect of AEZL against urolithiasis was evaluated using cystone as a drug reference. The results showed that EAZL reduced the high levels of oxalate and of calcium in the urine of rats treated with this plant compared to untreated rats. Crystalluria analysis and kidney histology confirmed the beneficial effect of AEZL in reducing the number and size of calcium oxalate crystals formed in the urinary tract. A significant similarity was observed between the preventive and therapeutic anti-urolithiasis effect of EAZL and the antiurolithiasis effect of cystone, the reference treatment ($P < 0.001$). AEZL has a preventive and curative effect in the management of urolithiasis.