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Review Article

A Traditional Approach to Kidney Stones: Insights from Unani Medicine

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Abstract

Background: Renal calculi, commonly known as kidney stones, are a prevalent urological disorder with significant global health impact. While conventional medicine offers various treatment modalities, traditional systems like Unani medicine provide time-tested, holistic approaches that emphasize prevention, detoxification, and balance of body humors.

Objective: This study aims to explore Unani perspectives on the etiology, pathophysiology, and management of renal calculi, and to highlight the therapeutic potential of Unani formulations and regimens.

Methods: A qualitative review of classical Unani texts (Al-Havi Fit Tib, Kamil Us Sana, Al-Qanoon Fit Tib, Zakhira Khwarzam Shahi, Al-Mukhtarat Fit Tib, Iksire Azam etc.) and alongside contemporary research articles, was conducted. Key Unani concepts related to renal calculi were analyzed, including causes, symptoms, diagnosis, and treatment protocols. Emphasis was placed on pharmacological and regimenal therapies commonly prescribed in the Unani system.

Results: Unani medicine attributes the formation of kidney stones due to imbalances in Mizaj (temperament) and accumulation of Mādda-i-Fasida (morbid matter) in the kidneys. Famous Unani formulations like Safoof pattharphodhi, Majoon Hajrul Yahood, Majoon Aqrab, Qurs Hajrul Yahood, Sharbat Aaloo Baloo, and Sharbat Bazoori, are widely used. Regimens like hammam (steam bath), dalak (massage), and dietary modifications also support detoxification and stone expulsion.

Conclusion: Unani medicine offers a comprehensive, natural framework for managing renal calculi, with emphasis on individualized treatment and prevention. Integrating Unani principles with modern diagnostics may enhance patient outcomes and offer safer, long-term management options.

Keywords: Unani Medicine; Renal Calculi; Kidney Stones; Ḥaṣāt-i-Kulya; Traditional Medicine; Lithotriptic Herbs

Introduction

Renal calculi, commonly known as kidney stones, are solid crystalline formations composed of mineral and acid salts that develop within the urinary tract [1]. They are a widespread health concern globally, affecting individuals of all ages, with recurrence rates as high as 50% within five years of an initial episode [2]. The condition not only causes intense pain and discomfort but can also lead to complications such as urinary tract infections, hydronephrosis, and renal failure if left untreated [3]. The rise in sedentary lifestyles, dehydration, unhealthy dietary habits, and

metabolic imbalances has contributed to the increasing prevalence of this disorder worldwide [4].

Modern medicine provides various options for the management of kidney stones, including pharmacological treatments, lithotripsy, and surgical interventions [5]. While these approaches are effective in symptom relief and stone removal, they often come with side effects, risk of recurrence, and high costs [6]. In this context, Unani system of medicine, offer an alternative and holistic approach that emphasizes not only treatment but also the prevention of disease through the balance of body humors and lifestyle regulation [7].

Unani medicine, (Greco-Arabic system) rooted in the teachings of Hippocrates, Galen, and later scholars like Ibn Sina (Avicenna), is based on the concept of balancing the four humors (akhlat): blood (dam), phlegm (balgham), yellow bile (safra), and black bile (sauda) [8]. Health, according to Unani philosophy, is the result of a harmonious equilibrium among these humors, while disease arises from their imbalance [9]. Renal calculi, referred to as Ḥaṣāt-i-Kulya in Unani literature, are understood as a manifestation of abnormal humoral imbalance and accumulation of waste materials in the kidneys due to poor digestion, improper diet, and lifestyle factors [10].

Unani physicians treated renal calculi using an integrated approach that included herbal medicines, regimenal therapy (‘Ilāj bi’l Tadbīr), dietary instructions (‘Ilāj bi’l Taghdhiya), and detoxifying methods over time [8]. The therapeutic strategy primarily includes the use of mufattit-i-haṣāt (lithotriptic agents), mudirr-i-baul (diuretics), and mushil (Purgative), which aim to dissolve the stones, facilitate their expulsion, and cleanse the urinary tract [11]. Commonly used herbs include Kulthi (*Dolichos biflorus* Linn), Gokhru (*Tribulus terrestris*) Karafs (*Apium graveolens* Linn), Pattharchatta (*Kalanchoe pinnata*), Pakhan Baid (*Bergenia ligulata* Wall), Tukhm Kaknaj (*Physalis alkekengi* Linn), Chirchita (*Achyranthes aspera*), Kabab Chini (*Piper cubeba* L), Tukhm Gazar *(Daucus carota* Linn), Aalu Baloo (*Prunus cerasus*), Tukhm Halyoon (*Lepidium sativum*), Tukhm Khurfa (*Portulaca oleracea* Linn), Biskhapra (*Trianthema portulacastrum*), Tukhm Tarbooz (*Citrullus lanatus*) etc. and mineral drug Hajrul Yahood (*Lapis judaicus*), and Shora Qalmi (Potassium nitrate), among others, all of which have been documented for their diuretic, anti-inflammatory, and stone-dissolving properties [12].

Furthermore, Unani medicine emphasizes the importance of preventive care through personalized lifestyle modifications, including hydration, dietary restrictions (such as limiting oxalate-rich foods such as Spinach, Rhubarb, Beets and sweet potatoes), and maintaining digestive health to prevent the recurrence of stone formation [11]. The holistic nature of Unani system of medicine, its minimal side effects, and its focus on the root cause of disease make it a valuable complement or alternative to conventional treatments [13].

Aim and Objectives

This paper aims to explore the Unani understanding of kidney stones, analyze traditional treatments through classical texts and modern interpretations, and evaluate their relevance and efficacy in the present-day context. By doing so, it seeks to bridge traditional wisdom with contemporary healthcare needs and highlight the potential of Unani medicine in managing renal calculi.

Materials and Methods

This study is a qualitative review based on classical Unani medical literature and contemporary scientific sources. Primary data was collected from foundational Unani texts (Al-Havi Fit Tib, Kamil Us Sana, Al-Qanoon Fit Tib, Zakhira Khwarzam Shahi, Al-Mukhtarat Fit Tib, Iksire Azam etc), and other traditional/western manuscripts that discuss the etiology and treatment of Ḥaṣāt-i-Kulya (renal calculi) [14-19]. Secondary data was obtained from peer-reviewed journals, research articles, and clinical studies available through academic databases such as PubMed, Google Scholar, and AYUSH Research Portal. Herbs and regimens commonly used in Unani for kidney stones were identified and analyzed for their pharmacological properties. The focus was on identifying the principles of diagnosis, herbal formulations, and regimenal therapies. The study also compared traditional approaches with current biomedical practices to assess relevance and efficacy. All literature was selected based on relevance, authenticity, and contribution to understanding the Unani approach to renal calculi.

Etiopathogenesis of renal calculi

In Unani medicine, renal calculi (Ḥaṣāt-i-Kulya) are believed to result from an imbalance in the body’s humors, particularly an excess of abnormal ‘Balgham’ (phlegm) and ‘Safra’ (yellow bile), leading to thick, viscous urine. The pathogenesis of renal stone

formation involves a complex interplay of environmental and physiological factors. According to Ibn-e-Sina, the active etiology (Sabab-i- Fa'ili) is characterized by transient and external heat that deviated from its moderate condition (Halat-e- I'tidāl). On the other hand, the materialistic etiology (Sabab-i- Maddi), pertains to the accumulation of dense, viscous humoral substances, such as phlegm (balgham), pus, or thick blood. Under the influence of excessive heat, these fluids undergo dehydration and concentration, resulting in increased viscosity and density. Prolonged exposure to such thermal conditions facilitates the precipitation and crystallization of these substances within the kidney, ultimately leading to the formation of renal calculi. Factors like poor digestion (Du'f al-Haḍm), sedentary lifestyle, consumption of heavy, concentrated, or salty foods, and inadequate water intake contribute to stone formation [16,20,21]. Jaleenoos (Galen) posits that nephrolithiasis primarily results from kidney ulcers; if pus does not drain, it accumulates and solidifies into a stone [19]. According to Zakarya Razi (850-923 AD), abnormal humor is the cause of the renal calculus. The body excretes abnormal humor in the form of viscid fluid, which travels toward the kidneys and forms crests, causing stone formation [14]. It is also linked to the accumulation of waste products (Fuzlat) in the kidneys due to weak organ function [22].

In modern medicine, renal calculi are caused by supersaturation of urine with stone-forming substances like calcium, oxalate, uric acid, and cysteine. Contributing factors include dehydration, high dietary intake of salt and proteins, urinary tract infections, obesity, metabolic disorders (like hyperparathyroidism), and certain medications such as hydrochlorothiazide, topiramate, ibuprofen and diphenhydramine [23]. Genetic predisposition and recurrent urinary infections can also promote stone formation. Lack of inhibitors like citrate in urine further supports crystallization [24]. Thus, both systems recognize improper lifestyle, diet, and internal imbalances as major factors, though the understanding of pathogenesis and terminology differ.

Clinical features of renal calculi

In Unani medicine, the clinical features of renal calculi (Ḥaṣāt-i-Kulya) include severe pain in the lumbar region (Waja'al-Kulya), radiating towards the groin and genital areas [16,19]. There may be heamaturia (Bawl al-Dam), dysuria ('Usr al-Bawl), oliguria (Qilla al-Bawl), nausea (Ghathayān), vomiting (Qay'), restlessness, and sometimes fever if infection develops [17]. Patients often complain of heaviness or discomfort in the flank region, with episodic aggravation based on movement or dietary habits [18].

In western medicine, typical symptoms include intense flank pain (renal colic) that may radiate to the lower abdomen or groin [25]. Pain often comes in waves and varies in intensity [26]. Hematuria (gross or microscopic) is common. Other features include nausea, vomiting, frequent urge to urinate, painful urination, and cloudy or foul-smelling urine. Fever and chills may occur if the stone causes urinary tract infection [1]. Some small stones may remain asymptomatic and are discovered incidentally during imaging. Both systems highlight pain, urinary disturbances, and systemic symptoms like nausea or fever, reflecting similar clinical manifestations despite different descriptive approaches [27].

Principle of treatment of renal calculi in unani medicine

In Unani medicine, the treatment of renal calculi (Ḥaṣāt-i-Kulya) is based on restoring balance to the humors (Akhlat) and eliminating the cause (Izāla'-i-Sabab) [16-19]. The main principles include:

- **Evacuation of Morbid Material:** Removal of the stone-forming substances from the body by promoting diuresis through natural remedies (Mudirr-i-Bawl drugs).
- **Dilation of Urinary Passages:** Using medicines that dilate the urinary tract to help easy expulsion of stones.
- **Dissolution of Stones:** Administration of stone-dissolving drugs (Muhallil-i-Hasat), aiming to break the stones into smaller fragments.
- **Correction of Humors:** Balancing the temperament (Mizaj) by dietary regulation and lifestyle modification.
- **Prevention of Recurrence:** Strengthening the kidneys (Muqawwī-i-Kulya) and preventing stone formation by maintaining proper digestion and hydration.

Lithotriptic activity of Herbs

Lithotriptic herbs possess properties that help dissolve or break down urinary stones and ease their expulsion [28]. In Unani medicine, plants like Gokhru (*Tribulus terrestris*), Kulthi (*Dolichos biflorus* Linn) Tukhm Gazar (*Daucus carota* Linn), Tukhm Kakri (*Cucumis sativus*) and Pakhan Baid (*Bergenia ligulata* Wall), are widely used for their stone-dissolving effects [29,30]. These herbs

act by increasing urine flow (diuresis), reducing inflammation, and altering urine composition to prevent crystal aggregation [30]. Some herbs also have cooling, demulcent, and detoxifying actions that soothe the urinary tract [31]. Regular use can help fragment stones into smaller particles, making passage easier and reducing recurrence [32]. Their natural efficacy offers a safer alternative in managing renal calculi.

Unani Name	Scientific Name/Family	Parts Used	Chemical Constituents	Mechanism of Action (Lithotriptic)
Gokhru	*Tribulus terrestris/Zygophyllacea*e	Fruits	Steroidal saponins, flavonol glycosides, and alkaloids	Diuretic, breaks stones, soothes urinary tract [33]
Kabab Chini	*Piper cubeba L/Piperaceae*	Fruits	lignans (like cubebin), β-caryophyllene and cubebol	Diuretic, reduces urinary inflammation [12]
Karafs	*Apium graveolens/Apiaceae*	Seeds	flavonoids, phenolic acids and furanocoumarins	Diuretic, dissolves stones [12]
Soya	*Anethum sowa Kurz/ Apiaceae*	Seeds	Carvone, Dillapiole and Limonene	Diuretic, anti-inflammatory [12]
Anisoon	*Pimpinella anisum Linn/ Apiaceae*	Seeds	Anethol, estragole and p-anisaldehyde	Diuretic, reduces stone formation [12]
Kulthi	*Dolichos biflorus Linn/ Fabaceae*	Seeds	Terpenoids, Flavonoids and Saponins.	Dissolves and expels stones [37]
Anantmool	*Hemidesmus indicus/ Apocynaceae*	Roots	2-hydroxy-4-methoxybenzaldehyde, Hemidesmin 1 & 2	Detoxifier, lithotriptic action [38]
Pakhan Baid	*Bergenia ligulate Wall/ Saxifragaceae*	Rhizome	Bergenin, arbutin, and catechi	Potent lithotriptic, dissolves urinary stones
Kaknaj	*Physalis alkekengi Linn/ Solanaceae*	Fruits	Physalins and Flavonoids.	Mild diuretic, supports urinary function [12]
Tukhm Kakri	*Cucumis sativus Linn/Cucurbitacea*e	Seeds	Cucurbitacins, phytosterols and Flavonoids.	Diuretic, soothing urinary tract [12]
Tukhm Tarbooz	*Citrullus lanatus/Cucurbitacea*e	Seeds	L-citrulline and Lycopene	Diuretic, coolant for urinary system [12]
Tukhm Khiyar (Khira)	*Cucumis sativus Linn/Cucurbitaceae*	Seeds	Cucurbitacins, phytosterols and Flavonoids.	Diuretic, relieves urinary burning [12]
Tukhm Kaddu	*Cucurbita moschata/Cucurbitaceae*	Seeds	Cucurbitacins, flavonoids and polyphenol.	Mild diuretic, anti-inflammatory [12]
Tukhm Khurfa	*Portulaca oleracea L/ Portulacacea*e	Seeds	ascorbic acid, β-carotene, α-tocopherol, and glutathione	Diuretic, cooling effect, reduces stone risk [12]
Tukhm Cholai	*Amaranthus spinosus/ Amaranthaceae*	Seed	Saponins, betalains, Flavonoid and Phenolic acid.	Diuretic, reduces urinary inflammation [12]
Darchini	*Cinnamomum zeylanicum Blunc /Lauraceae*	Bark	Eugenol, Cinnamaldehyde, Linalool, Flavonoids and Tannins	Anti-inflammatory, mild urinary cleanser [12]
Tukhm Gazar	*Daucus carota L/Apiaceae*	Seeds	Terpenoids, phenols and Flavonoid.	Diuretic, promotes urine flow [12]
Biskhapra,	*Trianthema portulacastrum/Aizoacea*e	Rhizome	Trianthenol, ecdysterone and 3-acetylaleuritolic acid	Powerful stone breaker, diuretic action [12]
Tukhm Halyoon	*Lepidium sativum/Brassicacea*e	Seeds	Glucosinolates, Flavonoid and phenolic compounds	Diuretic, supports kidney function [12]
Aalu Baloo	*Prunus cerasus/Rosacea*e	Fruit	Citrate, Isoquercitrin, Kaempferol, Cerasinone,	Diuretic, antioxidant, urinary support [12]
Chirchita	*Achyranthes aspera/Amaranthacea*e	Roots and Seeds	Saponin, glycoside and ecdysterone.	Stone dissolver, diuretic [39]

Table 1

Lithotriptic activity of Unani formulations

In Unani medicine, several classical formulations exhibit strong lithotriptic (stone-breaking) activities, effectively managing renal calculi (Ḥaṣāt-i-Kulya) [16,19]. These formulations aim to dissolve stones, promote their expulsion, and prevent recurrence by correcting humoral imbalances.

Key formulations like Safoof pattharphodhi, Majoon Hajrul Yahood, Majoon sange Sarmahi, Majoon Aqrab, Qurs Hajrul Yahood, Sharbat Aaloo Baloo, and Sharbat Bazoori, are widely used. They contain potent lithotriptic herbs such as Bergenia ligulata (Pakhan Baid), and Dolichos biflorus (Kulthi), which act by dissolving stones, increasing urine flow (diuretic action), and reducing urinary inflammation [40-44]. These formulations work through evacuation of morbid matter, dissolution of stones, and widening urinary passages [45]. They enhance urinary volume, neutralize crystallizing agents, and correct underlying temperamental imbalances (Mizaj) [45]. Unani lithotriptic formulations offer a holistic approach by not only breaking down the stones but also strengthening renal function and improving metabolism, reducing the chances of recurrence [46].

Conclusion

Unani medicine offers a holistic and time-tested approach to the management of kidney stones, emphasizing not just symptomatic relief but addressing the root causes of stone formation. By focusing on humoral balance, dietary regulation, herbal remedies, and regimenal therapies, Unani physicians aim to dissolve stones, promote their natural expulsion, and prevent recurrence. Natural lithotriptic herbs and classical formulations provide safe and effective options, enhancing kidney function and overall health. The principles of evacuation of morbid matter, dissolution of stones, and widening urinary passages, reflect a deep understanding of disease pathology from a traditional perspective. In an era where lifestyle-related disorders are rising, Unani medicine's personalized, preventive, and curative methods offer valuable insights. Integrating these traditional practices with modern research could further enrich contemporary renal care, making Unani medicine a relevant and complementary option in the global health system.

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Nil.

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