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Review on Kalladaippu



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ABSTRACT

Siddha system of medicine is an age old traditional system with unique properties in not only treating a disease but gives us an immense perception and approach to lead a healthy life. Kalladaippu is described in the Siddha classical literature ^[1]. The clinical features of kalladaippu can be correlated with Urolithiasis. Many herbal and herbo-mineral formulations have been described in Ancient Siddha texts which are used in the management of Urolithiasis. Siddha system of medicine has an excellent guideline for the treatment of urolithiasis and it mainly focus on the prevention and proper lifestyle in order to avoid the recurrence of the disease.



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INTRODUCTION

Siddha system of medicine is an age old traditional system with unique properties in not only treating a disease but gives us an immense perception and approach to lead a healthy life. Siddhars are the spiritual scientists and they have classified diseases into 4448 numbers^[1]. Kalladaippu is one among them. The clinical features of kalladaippu can be correlated with Urolithiasis.

Urolithiasis is a term originated from three Greek words, 'ouros' for urine, 'oros' for flow, and 'lithos' for stone. It is the process of forming stones in the kidney, bladder and/or urethra and is a complex phenomenon yet not clearly understood. Urinary calculi are the third most prevalent disorder of the urinary system^[2].

Kidney stone formation or urolithiasis is a complex process that is a consequence of an imbalance between promoters and inhibitors in the kidney^[3]. By proper intake of diet and other lifestyle modification, we try to alter the chemical balance by increasing the stone inhibiting factor. Supersaturation of urine with stone-forming chemicals is a prerequisite for stone formation.

The recurrence rate without preventive treatment is approximately 10% at 1 year, 33% at 5 years and 50% at 10 years^[4]. With a prevalence of > 10% and an expected recurrence rate of ~ 50%, stone disease has an important effect on the healthcare system^[5].

Siddha system of medicine is a traditional system of medicine nurturing the mankind from time immemorial. The WHO has estimated that approximately 60 to 70 % of the world's population rely on traditional medicine for their health needs^[6].

According to Siddha Materia Medica, the medicines are obtained from herbs, metals, minerals and animals products^[7].

So here the article is focused on the Review on kalladaippu (urolithiasis) and major indigenous herbs used in the management of kalladaippu.

Epidemiology

Epidemiological studies indicate many factors like age, sex, industrialization, socioeconomic status, diet, and environment, influences urolithiasis. Stone formation is one of the painful

urologic disorders that occur in approximately 12% of the global population, and its recurrence rate in males is 70-81% and 47-60% in females^[8].

Most of the urinary stone diseases were diagnosed in the fifth decade. The peak incidence of urinary calculi is from the twenties to the forties. Men are affected approximately 4 times more often than women. Recent evidence has shown an increase in paediatric cases^[9].

In urolithiasis, calcareous stone is the most common type of kidney stone disease and accounts for more than 80% of all stones. The primary chemical complexes are calcium oxalate (CaOx) and calcium phosphate (CaP)^[10].

Disease profile

Kalladaippu

Kalladaippu is described in the Siddha classical literature^[11]. The clinical features of kalladaippu can be correlated with Urolithiasis. A urinary disease denoted by the sudden obstruction of the urinary tract while passing urine by excretion of small sand-like granules^[12]. It comprises of nephrolithiasis (the formation of kidney stones), ureterolithiasis (the formation of stones in the ureters), and cystolithiasis (the formation of bladder stones).

Etiology

In Siddha system, the well-being of the human is based on the proper balance and synchronisation of the three vital forces or humors namely Vali, AzhalandIyam. It is the mutthodam theory. Derangements in these three humors results in the formation of diseases.

Kalladaippu (Urolithiasis) comes under Neerinaiarukkalnoigal, producing low output of urine due to various aetiological factors like dietary intake of food that increases vali and azhalkuttram, Drinking of contaminated water, Intake of putrefied food and starch substances, Intake of food while indigestion^[12]. The etiology of this disorder is multifactorial and is strongly related to dietary lifestyle habits or practices^[13].

Risk factors

Increased rates of hypertension and obesity, which are linked to nephrolithiasis, also contribute to an increase in stone formation^[14]. People with certain medical conditions, such as gout, diabetes, hypertension and those who take certain medications or supplements are at risk for renal stones^[15].

Classification

According to the siddha text kalladaippu is classified into four types^[11]:

- ❖ Vathakalladaippu
- ❖ Pitthakalladaippu
- ❖ Kabakalladaippu
- ❖ Mukkutrakalladaippu

Vathakalladaippu

The intermittent passing of urine along with pricking pain felt below the umbilicus, inflammation and intense pain of the penis associated with abdominal distention and dyspnea.

Pitthakalladaippu

An Increased heat all over the body, dysuria, hematuria, gnawing and pricking pain in the urethra and red coloured stone get excreted in the urine

Kabakalladaippu

An Excruciating pain in the umbilical region associated with pain in the waist, thigh and penis. Excretion of white coloured stones granules in the urine.

Mukkutrakalladaippu

An Intense pain below the urethral region, intermittent excretion of urine characterized by a disintegration of stones into small sand like granules which is excreted daily.

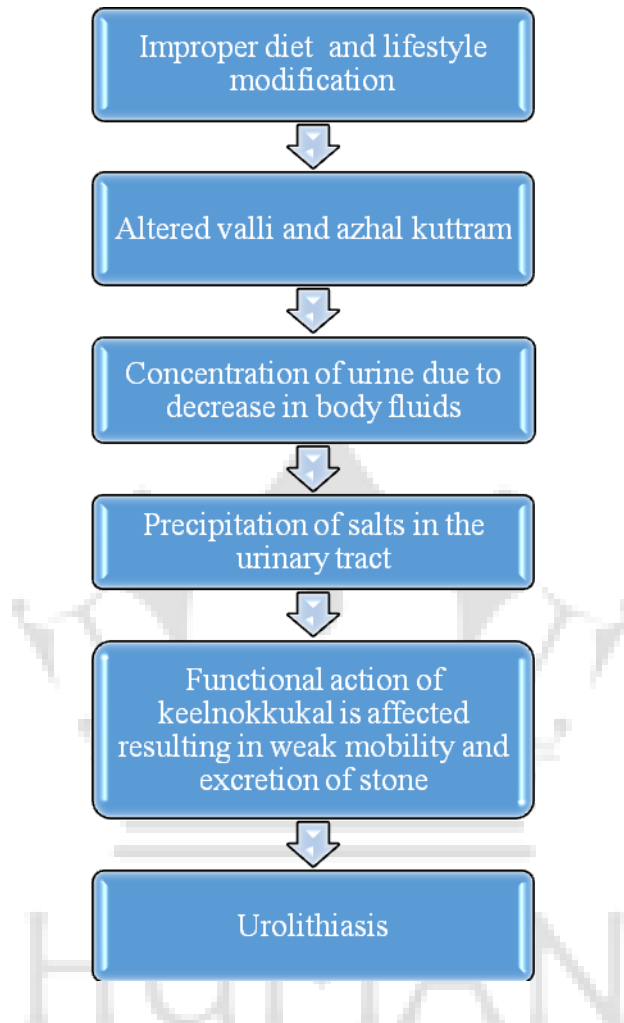
Signs and Symptoms

Dysuria, hematuria, intense colicky pain radiates from the costal arch obliquely to the lower abdomen, groins, and testes. Nausea and vomiting present, Obstruction of urine causing severe pain in the genitalia and upper part of the anal region, during excretion of urine the movement of stone causes intense pain and inflammation of the urinary tract^[12].

Humoral pathology (MukkuutraVerupadu)

Dietary factors play an important factor in the development of the disease. The changes in the food we take and the water we drink leads to the derangement of the three humors (Vali,

Azhal, Iyam). In this disease Vali and Azhal are affected leading to the dryness and increased heat. This causes decrease in body fluids and increase in concentration of urine which paves the way for the formation of stones by the accumulation of salts. As keezhnokukal (Abanan – type of Vatham) is affected mobilization and excretion of the stone is affected^[16].



1.1 Picture : Humoral Pathology

Types of stones

Table 1.1 Major and subtypes of stones in urolithiasis according to chemical components^[17].

Major Type	Subtypes
Calcium Stone (70-80%)	Calcium oxalate monohydrate (40-60%) Calcium oxalate dehydrate (40-60%) Calcium hydrogen phosphate (brushite) (2-4%) Calcium orthophosphate (<1%)
Uric Acid Stone (5-10%)	-
Cystine Stone (1%)	-
Struvite (1%)	-
Xanthine Stone (1%)	-
Mixed Stones (50-60%)	Mixed calcium oxalate-phosphate (35-40%) Mixed uric acid-calcium oxalate (5%)

Management of kalladaippu

The primary aim of the treatment focus mainly to restore the deranged thathu to normal which is the prime cause of the disease. In urolithiasis (kalladaippu) vali and azhal are affected. Later medicines are prescribed from herbal preparations to higher strong medicines depending on the severity of the disease. Base on the associated symptoms the choice of drugs are tailor made.

Line of treatment

Pharmacological treatment regimen

Primary

Therapeutic purgation: To restore the deranged thathu therapeutic purgation is done. The property of the drug used for purgation must be a coolant which may be in the form of decoction or ghee.

Medicines

- ❖ Agathiyarkuzhambu – 130mg with 10ml juice of thazhaivizhuthu (Pandanusodoritissimus) at early morning^[18].
- ❖ Sanjeevimathurai – 100mg, 1 - 2 early morning with utthamani juice (Pergulariadaemia) 10ml^[18].

Secondary

1. Treatment to dissolve or break the calculi: medicines that has the potency to interrupt in the stone formation as well as efficacy to break the already existing stones are preferred.
2. Treatment for associated symptoms – dysuria, haematuria : while obstruction of the stone in the urinary tract or passing of the stone through the passage or injury caused by the stone towards adjacent places causes these symptoms – medicines that has anti – inflammatory, analgesics, coolant and
3. Diuretics: Medicines which increases the urinary output are used. Since it can wash out the residues and deposits of stone in the kidney and urinary tract. Also prevents the further formation of calculus.

Many herbal and herbo-mineral formulations have been described in Ancient Siddha texts which are used in the management of Urolithiasis. Some of the formulations used in the management of kalladaippu were listed below.

Decoctions

- ❖ Neermullikudineer^[18]
- ❖ Kalladaippukudineer^[19]
- ❖ Maavilingapattaikudineer^[19]
- ❖ Peramuttykudineer^[20]

Chooranam

- ❖ Sirupeelai chooranam^[21]
- ❖ Thalesadhi chooranam^[18]
- ❖ Thiripala chooranam^[22]
- ❖ Thratchathy chooranam^[18]

Parpam

- ❖ Nandukkalparpam^[7]
- ❖ Silasathuparpam^[18]
- ❖ Kungiliyarpam^[18]
- ❖ Sanguparpam^[18]
- ❖ Padikavengararpam^[18]
- ❖ Kalnarparpam^[19]
- ❖ Vengararpam^[7]
- ❖ Viralmeenthalaikalparpam^[7]
- ❖ Vedikarasilasathuparpam^[24]
- ❖ Padikararpam^[7]

Mezhugu

- ❖ Vanmezhugu^[18]

Chunnam

- ❖ Vediuppuchunnam^[7]

Chendooram

- ❖ Vediannabedhichendooram^[7]
- ❖ Vediuppuchendooram^[7]
- ❖ Rasa chendooram^[7]
- ❖ Mandoorachendooram^[18]
- ❖ Gowrichinthaamanichendooram^[18]
- ❖ Padikarachendooram^[7]

Maathirai

- ❖ Mahaeladikuligai^[18]
- ❖ Vasanthakusumaagaramaathirai^[18]
- ❖ MahaVasanthakusumaagaramaathirai^[18]
- ❖ Jalotharimani^[12]
- ❖ kalludaikudori^[12]
- ❖ salamanjari^[12]
- ❖ nannarimaathirai^[23]

Leghiyam

- ❖ nellikkaileghiyam^[23]
- ❖ kadukkaileghiyam^[23]
- ❖ venpoosanileghiyam^[18]

Nei

- ❖ Thaneervittannei^[23]
- ❖ Puliyarainei^[18]
- ❖ Venpoosaninei^[18]
- ❖ Arugamvernei^[23]

Thailam

- ❖ Meghanathathailam (internal and external) ^[18]
- ❖ Sagadevithailam (internal and external) ^[18]
- ❖ Mahaelathithailam (internal and external) ^[24]

Vennai

- ❖ Kungiliyavennai (external) ^[18]

Diet

Diet plays an important role in both prevention and protection of the body from disease. Diet also plays a crucial role in the treatment of stone diseases. Diet can contribute to the aetiology, management or prevention of recurrence of kidney stone because dietary ingredients and fluid intake influence the volume, pH and solute concentration of urine.

Intake of food that has a diuretic property and influences the excretion of stone are advisable. Increase fluid intake to maintain urine output at 2-3 litres per day. Rice porridges made of barley rice, kuruvai, and manakatthai can be taken. Tender vegetables like *Raphanussativus*, stem of *Musa paradisiaca*, *Cocciniagrandis*, *Cucumissativus*. Intake of greens such as *Portulacaquadifida*, *Amaranthus tricolour*, *Besella alba*, *Oxanliscorniculata*, *Moringaoleifera*, *Centellaasiatica*, *Solanumnigram*.

Fruits like that has diuretic property and lithontriptic activity can be taken. Reduce salt intake. Reduce the amount of meat and animal protein eaten. Reduce oxalate intake (foods rich in oxalate include chocolate, rhubarb, nuts), get daily exercise, avoid smoking, avoid alcohol consumption, avoid controlling of voiding, mustsleep eight hours.

CONCLUSION

The present article provides an overall review about the kalladaippu in reference with urolithiasis. This article project on the siddha aspect of the disease and its classification, aetiology, signs and symptoms and management.

Thus I conclude that siddha system of medicine has an excellent guideline for the treatment of urolithiasis and it mainly focus on the prevention and proper lifestyle in order to avoid the recurrence of the disease. The medicines prescribed are tailor made depending on the severity of the disease and the individual body nature. So there is a complete approach towards the disease and the mankind which helps both mentally and physically for the betterment of life.

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