Case Report

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A Paediatric Case Study on Urolithiasis & Ayurvedic Management Authors

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Abstract

Urolithiasis or kidney stone is formation of urinary calculi at any level of urinary tracts. It is estimated that 12% world population experiences renal stone disease with a recurrence rate of 70-80% in male & 47-60% in female. Pediatric urolithiasis is an important kidney disorder encountered in clinical practice. There has been considerable regional variability in the reported incidences of urolithiasis. Various treatment mentioned prior to surgical intervention, one such formulation is *varunadi ghrita* .Many herbs were also explained for the management of stones such as *(Gokshur, Varun, Pashanbheda, Kulatha)* etc.In present study combination of varunadi grita & proprietary medicine prepared of herbs along with congenial diet helped relieve the stone in child.

Keywords: Mutrashmari; Varunadi Ghrita; Neeri; Pediatric; Gokshur.

Introduction

Urolithiasis or kidney stone is formation of urinary calculi at any level of urinary tracts. It is estimated that 12% world population experiences renal stone disease with a recurrence rate of 70-80% in male & 47-60%in female [1].

Pediatric urolithiasis is an important kidney disorder encountered in clinical practice. There has been considerable regional variability in the reported incidences of urolithiasis. Also, there is a growing body of evidence demonstrating that the overall incidence of pediatric urolithiasis is increasing. A better understanding of different risk factors can help with risk stratification in an individual subject and can guide specific measures to prevent stone recurrence. This review focuses on the current state of knowledge on the prevalence of pediatric urolithiasis, temporal trends in stone disease and the status of different risk factors in stone formation. The risk factors for urolithiasis include an individual's susceptibility to form stones, such as genetic predisposition and metabolic abnormalities, and environmental factors that facilitate stone disease, such as dietary practices as well as local climate characteristics. Prevalence of urolithiasis varies in different countries. The reported prevalence of urolithiasis increases from 15% in Asia, to 59% in Europe, 12% in Canada and 13-15% in the USA [2].

Urinary calculi are the most common affliction of urinary tract, which are exceeded by the urinary tract infection. Urolithiasis is largely a recurrent disease with a relapse rate of 50%in 5-10 years & 75% in 20 years. It is estimated that 12% of world population experience renal stone disease with a recurrence rate of 70-80% in male & 47-60 % in female .It causes serious health problems such as severe pain ,urinary tract obstruction ,infection that adversely affect the well being of human [3].

Urinary calculi are the most common affliction of urinary tract, which are exceeded by the urinary tract infection. It causes serious health problems such as severe pain ,urinary tract obstruction ,infection that adversely affect the well being of human .Despite of advancement in the modern technique the recurrence is noticed .The preferred treatment is surgical removal or lithotripsy or palliative .But this doesn't stop the formation of a subsequent stone formation [4].

In Ayurveda renal stones were explained in the context of *Ashmari* and it is considered as one among *Ashtamahagada* by acharya .This disease is relatively said as *krichra sadhya*(difficultly curable) with

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oushadhi & said as *shastra sadhya*. Many formulations were explained in the classics for the management of *Ashmari*. Drugs mainly having as action as a *mutravirechaniya, ahmarigna* like *Varun, Gokshur, punarnava, kulathha etc [5].*

Case History

A 6 year male child was brought by his parents with known case renal stone since the period of 6 months.Child took treatment but pain was not completely reduced. Presently abdominal pain was intermittent colicky since 4-5 days pain was radiating from back,burning micturation since week1for the same complaint they took medicine but didn't get relief .there was h/o single episode of vomiting & repeated h/o burning micturation. Previous reports of urine examination reveals

USG report of 9/06/11 left kidney shows 5mm calculus in its lower pole, right kidney shows 4mm in its lower pole calculus, focal tender dilated bowel loops mild spleenomegally was found.

Developmental history was normal. There was no history of renal stone in the family Food habits-habituated for rukshahar (dry food), more fond of milk, less water intake, consumes 6 yrs boy taking tea – 4-5 cups?

Vital were stable systemic examination were also found to be normal. Per abdomen tenderness present on lumbar umbilical, right & left suprapubic & iliac region .Tenderness present on right & left renal angle. Genito-urinary system was also found normal

As advised to child under gone USG abdomen & pelvis on 27/09/11, Reports revealed that right kidney shows 3-4mm two calculi in the mid pole calyx, left kidney showed 4-5 mm calculus in the lower pole .multiple enlarged mesenteric lymph nodes in right iliac fosse. As it was confirmed that it was bilateral renal calculi

Table 1: Previous available urine reports

Date	4/7/11	16/6/11
Appearance	Turbid	Slightly turbid
Reaction	Acidic	Acidic
Albumin	Present (+)	Trace
Glucose	Absent	Absent
Pus cells	2-4/hpf	1-2 hpf
Epithelial cells	1-2/hpf	1-2hpf
Casts	Granular casts occasional	Crystals-calcium oxalate occasional/HPF
RBC	3-5 /hpf	2-3/HPF

Table 2: Urine report of date 27-9-11

Appearance	Slightly Turbid
Reaction	Acidic
Albumin	Trace
Glucose	Absent
Pus cells	2-3/HPF
Casts	calcium oxalate ++
RBC	2-4 /HPF

Table 3: Reports of follow up

HB	12.5gm %
WBC count	8900 cells/cmm
Neutrophils	71
Lymphocytes	23
Eosinophils	4
Monocytes	2
ESR	32
Platelet count	132,000
M.P	Negative
Widal test	Negative
Liver function tests	
Sr.bilirubil total	0.2 mg%
Sr.bilirubil direct	0
SGPT	35 IU/L
SGOT	**64**IU/L
Sr.Total Proteins	6 mg%
Sr.Albumin	4.5
Sr.Globulin	2.6
A/G ratio	**3.4**
Sr. Alkaline Phoshatase	267

Table 4: Probable mode of action drugs

Samprapti Ghatak	*Mutrashmari*	*Varunadi ghrita & Tab-NEERI*
Dosha	Vata pradhan tridosha	Vatahara
Dushya	Mutra	mutrala
Agni	Jatharagni mandya	Deepan pachan
Ama	Jatharagni janya	Niram
Srotas	Mutravaha srotas	Mutral, ashmarigna
Udbhavasthana	Amashaya & pakwashaya	shoo
Adhistan	Mutravahasrotas &basti	Mutral
Vyaktashtan	Mutravahasrotas &basti	Mutral
Sroto dusti prakar	Sanga	Chedan bhedan,mutral
Rogamarga	Madhyam	ashmarigna
Sadhyasadhyata	Kruchra sadhya Shastrasadhya	Sadhya

As per classics majority of clinical features of *mutrashmari* such as *vedan in udar pradesh,sadaha mutrata*(burning micturation) & *sarakta mutrata* were observed. On the basis of *nidan* & *rupa* this clinical condition is dignosed as *mutrashmari.*

As *acharya vagbhata* explained the *varunadi grita* one of important formulation for *ashmari* it was administered 1tsp TID along with tab neeri 1tid for 3 weeks.

Pathya carrot,bitter guard, potato, radish, pumpkin, barley, moong dal coconut water,aloevera juice, pineapple juice,buttermilk garlic etc. *Apathya* like brinjal, beans, lady finger capsicum, tomato, paalak, maida, bran.chikko,black grapes, rajmah,chocolates, cauliflower, day sleep *mutravegadharan* etc were advised to the child.

On first follow up on15/12/11 all Clinical features like burning micturation absent occasional pain was present. He was advised to repeat USG on15/12/11 reports reveals that there were no evidence of urinary calculus & on the same day advised for blood tests

Child was asked continue the same medication for 15 days and follow up on 15 days. In the 2nd & 3rdfollow up child was relieved from the renal symptoms.

After 6 months child came the complaint of loss of appetite since 4-5 months , h/o feverish since 2days. General condition was good, vitals were stable weight was 19 kg. Treatment given was *sudarshan ghanavati* 1 TID for initial 8days followed by 1BD next 5 days, tab *krimikuthar rasa* 1 BD for 15 days was given

Subsequently child was followed up for the recurrence of calculi, till now child didn't came complaints of calculi or urinary diseases.

Discussion

Ashmari is caused due to vitiation of *tridosha* especially *Vata* ,this vitiated vata get settled in *basti pradesh* leads *shoshan* of *dravatva* of *mutra*,reduced *kledata* will precipitats in the formation of *ashmari in Basti* by altering the homeostasis of *mutra*. Tablet NEERI contains *ashmarignadrugs* like *varun, pashanbheda,shilajatu, kulatha* etc,*mutravirechaniya* drugs like *punarnava,gokshur* , & also some drugs like *pippali,chitrak,marich*,which were having *deepan pachan* activity. *Varunadi ghrita [6]* contain *or shoolagna* drugs like *ajamoda lashun,shunthi hingu* as well as *ashmarigna & anuloman* drugs like *haritaki* & also some drugs like *pippali,chitrak,marich* which were having *deepan pachan* activity.

Gokshur contain potassium alkali ie potassium nitrate this will helps to prevent recurrence of stone, it has also shown diuretic activity .*Varun* has shown disintegration & stone expulsion property. *Punarnava* was also shown the diuretic activity.

Many plants from Fabacaea,Liliaceae,Solanacare etc contain spironolactone which is diuretic steroid.

Conclusion

Urolithiasis can successfully treated with the Ayurvedic formulation & can prevent further recurrence in the individual.

Considering the size of the calculi treatment can be changed either oral medication or surgical intervention.

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