



VRIKKAROGA WITH SPECIAL REFERENCE TO CHRONIC KIDNEY DISEASE – A LITERARY REVIEW

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ABSTRACT:

The main aim of Ayurveda is eradication of the diseases and maintenance of health of healthy individuals. Ayurvedic literature has description regarding mutravaha sroto vikaras¹. Acharya Vagbhata gives a unique contribution of categorizing Mutravaha sroto vikara into Mutra Atipravritti and Mutra Apravritti vikara². Mutra Atipravritti vikara like Prameha and Mutra Apravrittija vikara like Asmari, Mutrakricchra and Mutraghata.

Symptom of both this Mutrakricchra and Mutraghata seems to be overlapping so to avoid confusion; Acharya Dalhana, Chakrapani, and Vijayarakshita have demarkated both the entities. This difference is based on the intensity of “Vibhanda” or “Avarodha” (obstruction) which is more pronounced in Mutraghata³.

Here Chronic Kidney Disease (CKD) encompasses a spectrum of different pathophysiologic process associated with abnormal kidney function. Manifested initially as a biochemical abnormality eventually the excretory, metabolic and endocrine dysfunctions of the kidney leads to the development of clinical symptoms and signs of renal failure, which are referred to as uremia.

The disease though originating in the kidney goes on to affect all the systems and the tissues of the body resulting in fatality. Chronic Kidney Disease is a global threat to health in general and for developing countries in particular because treatment therapy is expensive and should be continued lifelong.

KEYWORDS: VRIKKAROGA, MUTRAVAHA SROTAS, CKD

INTRODUCTION :

In the present era some diseases are prevailing world wide with large number of complications. Among such disorders Chronic Kidney Disease is one. Chronic Kidney disease has become most lingering disease caused due to several factors like Age more than 65 years, Diabetes type 1 and 2, Family history of renal disease, Autoimmune disease, Systemic infections, Urinary tract infections/stones Urinary tract obstructions, Recovery of acute kidney injury, Hypertensives Drug abusers: Nonsteroidal anti-inflammatory drugs, analgesics/ heroin, Neoplasia, and Low birth weight Reduced kidney mass etc.

Vrikka is comparable with kidney of contemporary science. Vrikka (kidney) regulate the removal of wastes from the blood in the form of urine. Vrikka is considered as Moolsthana of Medovaha Srotas. Vrikkaroga can be possible due to disequilibrium of Shonita and Meda as they form from it. The kidney diseases mentioned in modern science and their common symptoms can be correlated with Mutraroga described in Ayurveda.

The main function of Mutravaha Srotas is production of Mutra. Expelling out the liquid excretory products through Mutra. It carries the Kleda tatwa of the body - so " Mutrasya Kleda Vahanam⁴. This Mutra does filling of Basti (Basti Purana) and gives Mardavata or Mrudutwa to Basti. Whatever Udaka or Kleda is produced after the digestion is further gets transformed or metabolized into Mutra in Mutravaha Srotas. So "Srotamsi khalu Parinama mapadyamananam Dhatunam abhivaheeni" can be understood here.

Acharyas have used the terms like Vrukkou, Gavini, Basti, Mutra praseka, Mutravaba Srotas, Mutravaha Dhamani, Mutravaha Sira, and Mutra vaha Nadi in relation to explain Urinary system. Excess of kleda which is segregated from the udaka in the Shareera at Basti as Mutra. There are two source of kleda. They are Kosta/Amashaya and Shareeragata kleda. 'Kittamannasyavin Mutram' the gross food which we consume has the fluid portion and the most portion of fluid which we consume is absorbed in to the system. The terms such as Rasakleda, Sonitakleda, Mamsakleda, Dhatukleda, Srotokleda etc clearly suggests the formation and presence of kleda at different tissue level in the body.

The mula of Ambuvahasrotas is Talu and Kloma. But it is also rooted in Amashaya/Kosta. At kosta it is in association with Swedavahasrotas, Doshavahasrotas, Pachaka pitta, Kledakakapha and Samanavata. Hence, jaleeyadhatu gets absorbed from kosta. The mechanism of digestion, segregation of sara kitta, assimilation of sara and facilitation of excretion is elaborated by Sushrutacharya.

METHODS:

References related to Vrikkaroga and Chronic kidney disease were searched and relevant literature was reviewed from Samhitas, Modern books and Journal articles. Available commentaries of present era are also reviewed. All reviewed literature was critically analysed and well organized to prepare the manuscript.

CONCEPTUAL REVIEW:

The conceptual part comprises of the historical review followed by etymological derivation of Basti, its understanding in Ayurveda, Mutra and Mutrautpati according to Ayurveda and allied science. The diagnosis of disease has been segregated under 3 heading as Adhistaana antarani, Vikara prakruti and Samuthana vishesha.

The Vikara prakruti refers to the characteristics of an illness based on which the diagnosis is done. Among the lakshana samucchaya, Pratyatma lakshana is ascertained. Pratyatma lakshana along with other samanya lakshana the diagnosis is made.

In Ayurvedic classics, Mutra vikara are segregated in two groups such as Mutra atipravratiti and Mutra apravratiti vikara. Mutra atipravratiti vikara includes Vimshati Prameha and Mutra apravratiti vikara includes Vimshati Mutraghata as per acharya Vagbhata.

NIDANA PANCHAKA :**Nidana / Hetu (Etiological Factors)**

A) ATI VYAYAMA: Vyayama kala and matra: In our classics proper time and amount of exercise that has to be done⁵. Ativyayama will result in kshaya, prathamaka, raktapitta, chardi, atisara etc⁶. Here it can be taken as when a person is doing excess work beyond his capacity, will result in dehydration, electrolyte imbalance and lactic acidosis. Shoshana of Jaleeya Dhatu results in Vata Prakopa. Fluid and electrolyte imbalance may result in pre renal failure.

B) TEEKSHNA AUSHADHA⁷: Aushadha Dravya is categorized in two different headings namely, Bhesaja and Abheshaja. Dosage of a drug is determined on the basis of Dravya, Guna and Karma. Tikshna substances are those which are responsible for the Daha, Paka and Srava. Any drug, capable of producing Daha, Paka and/ or Srava in Basti Avayava may bring about acute or Chronic Kidney Disease. The nephrotoxic drugs are the best examples in the present era. Bhavaprakasha while commenting on this word has mentioned that “Tikshna – Ausadha –Rajika Suranadik Yuktam” intake of food having excess of Rajika, Surana are causative factor of Mutrakricchra.

C) RUKSHA MADYA PRASANGA: Continuous use of excess quantity of ruksha variety of Madhya leads to Mutrakricchra. Madya prepared out of dravya having qualities such as Rooksha, Laghu, Khara, Teekshna, Ushna, Sthira, Apicchila and Katina mostly considered as Ruksha Madya⁸. Madya in general has amla rasa, ushna virya and amla vipaka⁹ but few Madya depending upon the method of preparation it acquires ruksha guna i.e madya which is been prepared out of dhataki pushpa is ruksha, hridya and agni deepaka. Madya prepared out of tandula of yava is said to have ruksha property is vatapittakara¹⁰.

Naveena Madya is vatavardaka¹¹. Madya is having opposite qualities of Ojus, when taken in excess quantity continuously leads to destruction of Ojus. Thus Oja-kshaya leads to Vata prakopa thus providing a base for causing Mutraghata.

- D) NITYA DRUTA PRISHTAYANA:** Bhavapraksha while commenting on this term mentions that Druta Prsthyanat-Ashvadi Gamanat i.e to ride on fast moving animals like horse etc daily or frequently causes Mutrakricchra. The same description is termed with the word 'Abhikshatasya' by Charaka as Mutravaha Sroto dusti Karana¹². Riding horse or other such animals directly involves the saddle area which may result in injury to the Mutravaha Srotas. The sites of Vata and Apanavata being the same i.e Pakwashaya^{13,14}. Pakwashaya is in proximity with saddle area. There is chance of provocation of Vata Dosha to the maximum extent. Mutra Vikara, Shukra Vikara, Arshas, Gudabhramsha etc are considered to be the resultant of abnormal Apana Vata.
- E) ANUPA MATSYA:** Anupa desha refers to marshy land which is characteristic of heavy rainfall in a year¹⁵. Acharya vagbhata explains that matsya are parama kaphakaraka¹⁶. All the living creatures will be having constitutionally Kapha Pradhana Dosha in general. Creatures of such marshy land are Maha-abhishyandi by nature¹⁷. Maha-abhishyandi Ahara irresponsible for excessive Kledatva in Dosha, Dhatu, Mala and Srotas. Abhishyandi also causes Srotorodha. Thus producing favourable conditions in the various body part for various diseases.
- F) ADHYASHANA AND AJEERNASHANA:** Consuming food before the digestion of previous meal is Adhyashana¹⁸. This is a transient phenomenon as the function of Agni is adequate. The term 'Ajeernashana' refers to the consumption of food articles where the person suffers from the state of indigestion¹⁹. In the state of Ajeernashana, there will be impaired functions of Agni and it needs medications for the correction of Agni. Improper dietetic habits lead to the production of Ama in the body thus lead to Sroto avarodha, which is one of the main causes for Vata vitiation. Depending upon the Khavaigunyata it may produce disease. If Khavaigunyata is observed in the Basti, it may result in Acute or Chronic Kidney Disease.

- G) MUTRITODAKA BHAKSHANA/STREE SEVANA:** Faulty habits of an individual may land up in complications. Devouring food or indulging in sexual intercourse by a person having the urge for micturition²⁰. Vegadharana and indulging in activity definitely provokes Vata dosha. That too, Mutravegadharana and act of sex or consuming food will provoke Apana vata. Such acts during urge for micturition may result in secondary cause of vesicoureteral reflex. Secondary vesicoureteral reflex stems from a high pressure causing backward flow of urine from urinary bladder to Ureters and if severe enough, back to the kidneys. An infection from urinary bladder spreads to upper urinary system and even may result in Pyelonephritis.
- H) MUTRA VEGARODHARANA:** Suppression of urge of micturition is one of the important causes of Mutravaha sroto dusti. The Apana Vata is seated in pelvic region, is responsible for excretion of urine. Any impairment in its function such as Pratiloma-gati, leads to various affliction of Mutravaha Srotas such as Mutraghata, Ashmari, Prameha etc²¹. All the conditions which cause Patihanyate – obstruction to the Mutravega like Mutrajatara, Vatabasti, Mutraosanga, Mutraatita, Vata astila, Raktaja granti and Vatakundalika etc will also have the similar effect over the Mutravaha srotas. Viguna gati or Pratiloma gati of Vata is similar to the understanding of vesicoureteral reflex
- I) KSHEENA PURUSHA:** ‘Ksheenasya’ i.e Ksheena purusha. Ksheena purusha is susceptible to develop Mutravaha sroto dusti. Ksheena refers to Ksheena kaya as well as Bala ksheena. Bala is of two kinds. Bala refers to the bulk/physique of an individual obtained by Vyayama. Bala also refers to Abhyantara bala i.e, Ojas. In the present context Bala should be considered as Abhyantara bala. There are different factors attributed for Bala heena or Durbala. They are Swabhava, Dosha and Jara²². Swabhava refers genetic factors, Dosha refers to diseases due to lifestyle and environmental factors and Jara refers to geriatric issues²³.
- J) SABHIKSHATHA:** A person suffering with injury to the organs of Mutravaha Srotas are no doubt will suffer from Mutraghata and related complaints. Any injury to them will to bladder distension, urine retention.

SAMPRAPTI(Pathogenesis)

Due to increased intake of excessive Tridosha Prakopa Ahara Vihara, there will be vikruti in the formation of Prakruta Mutra. By this, the Karma of Mutra i.e. Kledavahana is hampered. This excess Kleda by residing in the body vitiates the Vayu(Apana Vayu) in the Basti. This Vitiated Vayu takes Sthanasamshraya in Vrukka and Mutravaha Srotus. Vitiated Apana Vayu moves upward i.e. takes Pratiloma Gati and causes A lot of diseases like Mutraghata, Prameha, Rakta Doshti, Shukradosha & Mutradoshas.

If the Amshamsha Kalpana of Doshas responsible for the formation of disease is done, it is evident that the Kledata of Kapha, Rukshata of Vata and Ushmata of Pitta are increased simultaneously. The food which is predominantly Snigdha, Guru and Madhura increases the kledata of Kapha. Regarding the Vata dusti, it is very clearly seen that, the increased Ruksha and Sheeta Guna is the main cause in pathogenesis. Ruksha guna is increased by the aetiological factors such as

Ruksha Madyapana etc. The Shoshana Kriya is invariably an effect of Rukshata. Apanavata is the Sthanik Dosha involved, which is provoked locally at Basti by its Nidanas such as mutra Vega dharana etc. It is difficult to analyse the role of Pitta in the Samprapti of Vrukka Roga based on the Nidanas mentioned in the classics. However it is evident that Ushma Guna of Pitta is responsible for the formation of Vrukka Roga.

POORVARUPA:

Pertaining to Poorvaroop of Vrukka Roga, Nidranasha(Improper sleep), Vanhimandyata(Loss of appetite), Netra Shotha(Periorbital edema), Aasyashada(Pain in mouth), Nadistabdata(Arteriosclerosis), Nadivega(Tachycardia), Nadi Ushnatwa(Hotness) and Roukshyata of skin(Uremic Frost). Amongst all these Poorvaroop. All Lakshanas are indicative of vitiation Vata and Kapha.

ROOPA:

Rupas are the signs & symptoms presented at the time of actual manifestation of disease. This is the stage when disease comes out with full signs and symptoms indicating the specific characteristics of the disease like the dominance of the dosha etc. Acharya Govinda Dass had given a unique contribution about the Swaroop of diseased Kidney
i.e. “Rogavasthayam Vrukkayo Swaroopam”

Symptoms presented by the subject who is suffering from the Vrukka Roga are Chardi (vomiting), Shotha (Periorbital, Pedal, whole body swelling), Shirashoola (Headache), Jwara (Fever), Raktahrassa (Anemia), Panduvarnatwak (Uremic Tinge), Swedabhava (Reduced sweating), Twacha Roukshya (Uremic Frost), Agnimandhya (Loss of Appetite), Peeda Kattayam (Pain in Low back), Udara Peeda (Pain abdomen), Vrukkadesha Peeda (Pain in Renal angle), Nadi nyuna (Feeble pulse), Nadi Vegata (High pulse rate), Bindurupa Mutra (Scanty urine), Peedayukta and Ushna Mutra (Painfull and burning Micturation).⁵⁹

If both the kidneys are involved, Severity of the disease increases along with following symptoms, Ashmariyugatoapi (Symptoms of Urolithiasis), Shishnagra Peeda (Pain in glans of penis), Raktanvita Mutra (Haematuria), Shaitya Panipada (Cold Extremities), Mutrakala Dhvajagra Daha (Burning Micturation), Vrukka Karshyata and Shithilata (Sclerosis of the kidney), Pleeha and Hridaya Roga (Diseases of Spleen and Heart), Karna Nada (Tinitus), Netraroga (Conjunctivitis, Hypertensive & Diabetic Retinopathy), Dhvajabhanga (LOL), Shakhagouram (Heavyness of Extremities), Murcha (Giddiness), Griva Amsa Murdni Prapedana(pain in head, neck) and Moha (Confusion).

Stages 1 & 2 CKD:

- Decreased GFR
- Renal parenchymal disease
- Poly cystic disease
- Glomerular nephritis
- Parenchymal and vascular diseases.

CKD progresses to stages 3 & 4:

- Organs affected
- Anemia
- Associated with Easy fatigability; decreasing appetite with progressive malnutrition
- Abnormality in calcium, phosphorus, mineral regulating hormone, Parathyroid hormone
- sodium, potassium, water, and acid-base homeostasis

Progresses to stage 5 CKD:

- Disturbance in Nutritional status.
- Water and electrolyte homeostasis.

DISCUSSION:

In Vikaraprakruti, the clinical presentation of the patient can be Mutraoukasda i.e Anuria, Mutrakshaya i.e Oliguria, Shota i.e, Renal oedema, Asadhyapandu i.e, advanced stage of Anemia, Sannipatajachardi i.e, Uremic vomiting. Mutraoukasda occurs due to Avarana by pitta or kapha that can be co-related to Post infectious glomerulonephritis and Diabetic nephropathy respectively. Mutrakshaya occurs due to secondary illness like Systemic hypertension, SLE and Hyperuricemia, Amyloidosis, Pyelonephritis, Renal tuberculosis can be co-related with Shonitaabhishyanda, Asadhyavatarakta, Ama, Abhyantaravidradhi and Raktaja mutrakricchra.

If the patient progresses to stage 5 CKD, toxins accumulate such that patients usually experience a marked disturbance in their activities of daily living, well-being, nutritional status, and water and electrolyte homeostasis, eventuating in the uremic syndrome. This state will culminate in death unless renal replacement therapy (dialysis or transplantation) is instituted.

CONCLUSION:

- CKD has multitudes of etiologies and form a vast clinical spectrum of symptomatology. Due to this reason elucidating the causation becomes difficult.
- In Ayurveda, the disease has not been singly explained but references of its clinical features have been depicted in multiple disease presentations. Mutradosha is one such clinical entity which could encompass the diseases of the kidney.

- In ancient times since biometric evaluations were absent, clinical presentation were the red flags to diagnose anuktavyadhi.
- In present scenario there are a vast armamentarium of biochemical tests including blood, urine and clearance tests which are helpful in early identification, proper assessing of course, prognosis of the illness and response to treatment.

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