

Comprehensive Review on Ayurvedic Urology

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Abstract:- Kidney is one of the major vital organs in the body maintaining the homeostasis by regulating the excretion of the metabolites and waste products. The Ayurvedic classical texts have scrupulously described the various urological conditions and their treatment.

After meticulous review of available literature it can be stated that the classification of various kidney diseases are very much similar to the modern science. Further, Acute and chronic nephritis, nephritic syndrome and uraemia can be co related with various Doshaj pathological urinary diseases. Similarly, resembling surgical conditions are also mentioned in Ayurvedic texts.

In this manuscript sincere effort has been made to acquaint the reader with the wealth of knowledge available in Ayurvedic literature on the important subject of Urology. Hence, this review article will prove useful to Ayurvedic scholars and researchers in understanding Ayurvedic urology in better manner.

Keywords:- Kidney disease, Vrukka, Ayurvedic Urology, Mootra rog, Basti vijnan.

I. INTRODUCTION

In Ayurvedic classical texts - the term 'Basti' includes Urinary organs from Kidneys to the bladder. Sushruta state that two ureters carry urine from Basti towards urethra. As both kidneys act as one single functional unit, Basti sheesha is taken as one single functional unit. Embryologically, the urinary system evolves from the essence of blood, kapha, pitta, vata and liquid waste products. The Kidneys lie adjacent to the ascending and descending colon. Urine formation is as continuous process and the urine dribbles into the bladder through ureters throughout 24 hours.

Some physicians consider 'Vrukka' as kidneys, as Ayurvedic texts describe presence of two Vrukkas in the region of the kidneys. However, nowhere in text books have the functions of Vrukka been related to formation or passage of urine. Even the word Vrukka is not mentioned in the chapters on disease of the urinary system. Similarly, in diseases of Vrukka (e.g. abscess or tumour) one does not get symptoms related to the urinary tract. On the other hand, embryologically and functionally Vrukkas have been related to fat metabolism, and Vrukka arises from the essence of fatty tissue and blood. Hence, we consider Vrukka as suprarenal gland. [1, 2, 3]

Similarly, Mootra nirmiti- (Formation of Urine) have been perfectly described in Ayurveda. According to Sushruta, Urine is formed in the kidney i.e. Basti or Basti – Sheersha, by thousands of units, which secrete urine and pour it into the bladder through ureters. These units are microscopic and hence their openings into the pelvis are not visible. Urine is the liquid waste product of the body. The origin of urine can be traced to food. After digestion of food, the useful portion is absorbed in the small intestine in the form of 'rasa' i.e. body fluids. The remaining portion is termed as 'kitta' which is further differentiated into water as well as liquid and solid waste products by the mucous membrane of the large intestine. Water and liquid i.e. soluble waste products which are the precursors of urine are absorbed in the large intestine.

'Rasa' (body fluids), together with water and soluble waste products absorbed from intestine reaches heart and is pumped by heart throughout the body. It perfuses and supplies nutrition to all the tissues and carries waste products from the tissues. The gaseous waste products reach lungs whereas the liquid waste products reach the kidneys and skin.

In this manuscript, sincere effort has been made to explore the available Ayurvedic literature on various urological disorders and their holistic management.

II. METHODOLOGY

In this article definition, aetiology, pathogenesis, clinical manifestation and management of common urological disorders have been documented to understand Ayurvedic perspective of Urology and holistic treatment approach towards these conditions. The conditions covered here are Mootrakrichchhra (Dysuria), Mootraj Udavarta (Neurological dysfunction), Mootraghata (Obstructive uropathy), Vata Ashthila (BPH), Bastishoatha (Nephritis) Nephrotic syndrome), Mootra Ashmari (Urinary calculus), Mootra rakta (Hematuria), Pooti Basti (Urinary tract infection), Basti gulm (Hydronephrosis), Basti Arbud (Tumour of urinary tract) and Basti karma Vighat (Renal failure).

A. Various diseases of Urinary system

- a) Mootra-Kruchchhra (Dysuria)
Difficulty in passing urine, usually associated with pain is termed as Mootrakruchchhra.

- **Etiology:** Excess of dry food items, meat of animals from anooopa region like fish, eating in excess, indigestion, alcohol in excess, astringent, bitter and pungent food items in excess. Similarly, excessive exertion, over-traveling in fast moving vehicles, excessive indulgence in sex, sexual intercourse with one's teacher's wife, intercourse with animals (unsalutary, un natural, anti-sadvrutta activity by a self non-possessed person causing vitiation of manasik doshas resulting in further imbalance of Tridoshas, leading to disease state), suppression of natural urges (Suppression of micturition, defecation and gases) and Drugs such as strong (Tikshan)medicines which vitiate Agni-Rakta-Pitta, alcohol in excess etc.
- **Pathogenesis:** The aetiological factors vitiate all the three doshas which accumulate in urinary system. They lead to dysuria by narrowing the passages in vataja, inflammation of passages in pittaja, oedema of passages in kaphaja, prostatic enlargement in shukraja, injury in abhigataja and shalyaja, obstruction by calculi and their particles in ashmarija and sharkaraja Mootrakruchchhra respectively.
- **Varieties of Mootrakruchchhra:** The following 10 types of Mootrakruchchhra are described in texts: (1)Vataja, (2) Pittaja, (3) Kaphaja, (4) Sannipatika, (5) Shukraja, (6) Pureeshaja, (7) Abhigataja, (8) Raktaja, (9) Ashmarija (10) Sharkaraja.

a) Vataja Mootrakruchchhra

- **Clinical Manifestations:** The patient suffer from pain in the region of kidneys, bladder, urethra and testes. He develops retention of urine or passes small quantities of urine frequently with straining. In addition, he also suffers from constipation, distension of bladder and distension of abdomen. This corresponds to colicky pain arising from urinary tract.
- **Treatment – General Principles:** Vatashamak medicines should be used along with oil massage, taking medicated ghee or oil by mouth, evacuation enema, retention oil enema, bladder wash, fomentation and spray of medicines over renal and bladder areas.
- **Recipes:** Mishrak Sneha, Amrutadi Quath, Gokshuradi Quath, Eladi Quath, Eladi Churma, Gokshuradi Taila, Trivrutadi Taila and Trivrutadi Ghruta etc. Similarly, upanah of Hot or warm poultices medicated with vatashamak medicines are useful.

- **Proprietary Preparations:**

Dashamoola ghruta	2-8 tsf. Twice a day
Bala taila or Bala ghruta	2-8 tsf. Twice a day
Shatavari Ghruta	2-8 tsf. Twice a day
Dashamularishta	2-8 tsf. (1/2-2 ozs) twice a day
Punarnavasava	2-8 tsf. Twice a day
Sheelajatu	240 mg. twice a day
Pashanabadar (Dagadi Ber)	120 240 mg. twice a day.

b) Pittaja Mootrakruchchhra

- **Clinical Manifestations-** The patient gets burning sensation in the region of kidney, bladder, and urethra and passes small quantities of steam like hot, red or turmeric like yellow coloured urine frequently. The patient often sweats and experiences pain and burning sensation while passing urine. These symptoms are encountered in acute nephritis, pyelonephritis, cystitis and urethritis.
- **Treatment-** The seasonal regimen advised for Grishma rthutu (Summer) should be carried out. Pittashamak diet and medicines, purgatives, application of cold pastes to skin, spray with cold water, tub bath, enemas and bladder wash with pittashamak medicines are useful in pittaja Mootrakruchchhra.
- The diet should consist of cold and sweet food items (Sheet-Madhur) and should dominate in milk, sugar, jaggery, ghee, rice and meat of jangal animals.
- **Recipes-** Coconut water, Red Coconut water, Grape juice, Paste of Dried black grapes, Erwaru Beeja (cucumber seeds), Daruharidra, Shatavari Quath, Kushakashadi Quath, Kharjuradi Churna, Mootrakruchchhahara Rasa, Chandrakala Rasa etc. Similarly, decoction of Amalaka together with jaggery relieves burning, bleeding and pain.

- **Proprietary Preparations**

Shatavari Ghruta	2-8 tsf. Twice a day
Chandrakala rasa	240 mg. Twice a day
Chandraputi praval	240 mg. – 480 mg. Twice a day
Praval Panchamruta	240 mg. – 480 mg. Twice a day
Kamadudha	240 mg. – 480 mg. Twice a day

c) Kaphaja Mootrakruchchhra

- **Clinical Manifestations-** The patient develop oedema and experiences a sensation of heaviness in the region of kidneys, bladder and penis. He passes small or large quantity of cold, whitish, sticky and thick urine. The patient experiences slight pain and sometimes develops goose skin while passing urine.

A large white kidney is described in subacute nephritis or nephritic syndrome which are characterized by massive albuminuria and massive oedema. It is worth while carrying out the treatment of kaphaja Mootrakruchchhra in nephrotic syndrome.

- **Treatment**

- **General principles:** Oil massage, oral administration of oils, medicated with kapha shamak and bitter taste medicines. Similarly, induction of sweating, emesis, administration of cleansing enemas and bladder washes are

useful. Diet should consist of hot, pungent, food items, buttermilk, ksharas and Yava.

► **Recipes:** Vyoshadi churna, Cardamom Powder, Shitivarak Churna, Pravala Bhasma, Saptaparnadi Quath, Kantakari Juice, Yavakshara etc. Similarly, Til oils medicated with Surasadi, Ooshakadi, Mustadi and Varunadi group of Medicines is useful in Kaphaja Mootra Kruchchhra and Cucumber seeds should be taken with buttermilk.

• **Proprietary Medicines**

Chandraprabha vati	240-480 mg. 3 times a day
Punarnavarishta	1-2 ozs 3 times a day
Gokshuradi guggulu	250 mg. 1-2 tab. Twice a day

d) Sannipatika Mootrakruchchhra

• **Clinical Manifestations-** The patient suffers from variety of manifestations described in vataja and kaphaja variety of mootrakruchchhra (dysuria). He passes urine of various colours, frequently and with difficulty and pain. He experiences pain, burning sensation or chilly sensation all over the body. In addition, he becomes drowsy.

• **Complications:** Emaciation, thirst, restlessness, anorexia, colicky pain, changing mood, generalized pain, apathy, delirium, giddiness, fainting, unconsciousness are the complications of sannipatika mootrakruchchhra.

• **Prognosis:-** Kruchchhrasadhya i.e. difficult to cure.

• **Treatment:** Treatment should be initiated according to dominance of dosha. One should administer emetics, purgatives and enema when kapha, pitta and vata dominate respectively. Some physicians feel that as Basti i.e. kidneys, are in the region of and controlled by Vata, one should give preference to vatashamak treatment and follow it up by pittashamak and kaphashamak treatment.

• **Recipe-** Falguadi Yoga, Bruhatyadi Quath, Shatavaryadi Quath, Shatavaryadi Quath, Milk and Jaggery, Yavakshara, Gokantakadi Leha etc.

e) Shukraja Mootrakruchchhra

• **Aetiology-** Suppression of ejaculation leads to irritation of apanavayu which in turn gives rise to dysuria. Semen vitiated by doshas obstructs its passages which in turn leads to dysuria. These conditions are encountered in diseases of prostate.

• **Clinical Manifestations-** Testes and bladder are swollen and the patient experiences pain in the bladder, penis, inguinal region and testes. The patient passes urine mixed with semen.

• **Treatment-** One should avoid suppression of ejaculation and correct the vitiated doshas affecting Shukra (semen). Indulgence in sexual intercourse is helpful in this condition.

• **Recipes-** Shilajita, Truna Panchamula Ghruta, Karpasa Mooladi Yoga, Baladi Mishrasnilarly, eha etc. Balya (tonics) such as Old wine or Drakshasava with meat of birds like sparrows and chicken act as tonics. Similarly, Bladder washes and enema with

Vrushya Medicines i.e. medicines acting as tonic to generating organs should be administered.

f) Pureeshaja Mootrakruchchhra

• **Clinical Manifestations-** Suppression of defaecation leads to irritation of apanavayu, which in turn gives rise to distension, colicky pain and retention of urine.

• **Treatment-** Vata Shamak regimen, which forms the basis of treatment, includes oil massage, tub bath, induction of sweating, retention as well as evacuation enemas and suppositories.

• **Triphala Kalka:** Paste of Triphala should be taken with Varuni wine and Saindhava salt.

g) Abhigataja or Shalyaja Mootrakruchchhra

Accidental or surgical injury to the urinary system gives rise to anuria, oliguria, retention of urine and severe pain. The clinical manifestations resemble those seen in vataja mootrakruchchhra and vata basti.

• **Treatment-** The surgical treatment should consist of surgical management of wound as usual. The medical treatment should be on a line of vataja mootrakruchchhra.

• **Local application of Panchavalkal Lepa:** Warm paste of skins of Vata (Banyan), Pimpal, Jambu and Mango should be applied over the site of injury.

• **Lohabhasma:** Lohabhasma should be triturated with honey and taken for a period of 3 days. Paradabhasma: 240 mg. of Paradabhasma should be taken with Yavakshara, sugar and butter milk.

h) Raktaja Mootrakruchchhra (Hematuria)

• **Aetiology-** Accidental or instrumental injury or emaciation of various tissues with bleeding disorders gives rise to severe pain and blood stained urine, which is passed frequently in small quantities. Formation of blood clots in the urinary passages leads to distention and heaviness in the bladder which is relieved after passage of blood clots.

• **Treatment -** The principles of treatment are the same as those in pittaja Mootrakruchchhra.

Pitta Shamak Juices: Juices of Nilotpala, Tadaphala Kasa, sugarcane and Kasheruka should be taken with sugar and honey.

The patient should eat sugarcane, Vidarikanda and cucumber. Gokshuraka Ghruta: Cow's ghee medicated with juice of Gokshurak and milk should be administered. Similarly, Cow's Ghee medicated with decoction of Shaliparni, Prushniparni, Bruhati, Kantakari, Gokshurak and Katak ((Nirmali) should be given to the patient.

• **Enemas:** Til oil, milk medicated with medicines belonging to Madhura gana or dried black grapes should be given as enema and bladder wash.

• **Ashmarija Mootrakruchchhra (Dysuria due to urinary calculi):** Urinary calculi obstruct the urinary passages and lead to pain in the kidneys, ureter, bladder, penis and perineal raphe. The patient massages the penis in an attempt to relieve the pain.

The stream of urine is sometimes bifurcated. He passes stools frequently and trembles while passing urine and stool. Injury by stones leads to blood stained urine. The patient is relieved of all his symptoms after passage of the stone.

- **Sharkaraja Mootrakruchchhra:** Small or minute particles of calculi are termed as Sharkara. The clinical manifestations are similar to but less serious than those of Ashmarija mootrakruchchhra.

III. MOOTRAJA UDAVARTA (NEUROLOGICAL DYSFUNCTION)

- **Mootraja Udavarta:** Mootraja Udavarta is a syndrome where abnormal function of autonomic nervous system interferes with natural downward flow of urine which may be reversed. In mootraghata, the interference with passage of urine is mechanical.
- **Aetiology:** Mootraja Udavarta is classified as - Vegavarodhaja (Caused by suppression of micturition), Apathyaja (due to indiscretion in diet and activity) and Upadravarupa – as a complication of other diseases.
- Suppression of micturition, eating in excess, of bitter, pungent and dry food items and excessive indulgence in sex lead to irritation of apana and samana vayu i.e. autonomic nervous system. The vitiated apana and samana vayu interfere with flow of urine from pelvis to ureter and disturb the co-ordination between bladder contraction and sphincter relaxation as well as peristalsis of colon and rectum. It also occurs as a complication of other diseases.
- **Clinical manifestations:** These are dysuria, frequent passage of small quantities of urine, retention of urine, distension of bladder, splitting and colicky pain, constipation, difficulty in passage of flatus, distension of abdomen, painful ejaculation of semen which is often thin, less viscous and cold, and pain in the region of kidney, bladder, penis, testes, anus, abdomen, heart, flanks and back. In addition, the patient suffers from severe headache, splitting pain all over the body and bending of body (Vinama). Similarly, Mootravruta vata gives rise to distension of bladder and infrequent micturition.
- **Medicinal Treatment:** Wine with souvarchal salt, Wine with Cardamom, Milk, Amalaka juice, Dung of Horse or Ass, Meat with wine, Saffron, Cucumber seeds and saindhav, Milk medicated with Laghu Pachamula, Fresh juice of grapes, Decoction of juice or paste of Duralabha etc. Similarly, 2 Teaspoons of powder of Devadaru, Moorva, Tumeric and Yashtimadhu should be administered with rain or distilled water.

IV. MOOTRAGHATA (OBSTRUCTIVE UROPATHY)

- **Mootraghata-** Dalhana, while commenting on Sushruta Samhita and Madhava in Madhav Nidan have defined Mootraghata as obstruction to the passage of urine. In later stages, when kidneys are damaged secretion of urine is affected resulting in oliguria. Depending on the dominant dosha, Mootraghata is classified as –

Dominance of Vata – (1) Vata – Basti, (2) Vatashttheela, (3) Vatakundalika, (4) Mootrareeta, (5) Mootra-jathar, (6) Mootra-sanga, (7) Mootra-granthi, (8) Mootra-shukra, (9) Vid-Vighat, (10) Vatajatype of Bastikundal.

Dominance of Vata and Pitta – (1) Ushna – Vata , (2) Mootra- Kshaya (3) Pittaja variety of Basti – Kundal, (4) Pittaja Variety of Mootroukasada or Mootravasada.

Dominance of Kapha –Kaphaja type of Bastikundal, Mootroukasada or Mootravasada.

Though mootraghata is classified on the basis of dominant doshas, vata is the basic dosha for all varieties of mootraghata.

Sushruta describes twelve varieties of mootraghata which include pittaroukasada which is described as mootravasada. Sushruta does not mention vid-vighata as a variety of mootraghata.

- **Mootra-kshaya (Oliguria):** Mootra-Kshaya-i.e. (Oliguria), is seen in dehydration or in the last stages of kidney diseases.
- **Pathogenesis:** Increased dryness of body following diseases and exhaustion following exertion leads to increased pitta and vata in urinary system which in turn give rise to oliguria.
- **Clinical Manifestations:** The patient suffers from – oliguria, dysuria and burning sensation while passing urine.
- **Treatment:** Shilajatu or Guggulu should be given with decoction of Gokshurak.
- **Mootra-sada (Urine retention):** Pittaja type :- Hot, Pungent, sour and salty food items, when taken in excess, give rise to pittaja mootroukasada. The patient passes clear yellowish urine in large quantities. Burning sensation is present and the urine after drying resembles GoroChan i.e. powder of gall (Bile) stones of a cow.
- Kaphaja type :- Heavy cold, sweet, sour and salty food items when taken in excess give rise to kaphaja mootravasada. The patient passes sticky white urine with difficulty. On drying the precipitate resemble the whitish powder of Shankha i.e. Conch.
- **Mootra Shukra (Spermaturia):** Aetology :- Having sexual intercourse in the presence of an urge to pass urine.
- **Clinical Manifestation:-** The Semen is discharged just before, during or immediately after the act of micturition. The urine mixed with semen appears like ash water.
- **Treatment:**
 - Shilajita or Guggulu should be taken with decoction of Gokshurak.
 - Decoction of coriander and Gokshurak, should be given.
 - Ghee medicated with paste of coriander and Gokshurak, should be administered.

- **Mootra Jathar (Atonic Bladder)** Pathogenesis and clinical manifestations:
Suppression of micturition for a long time irritates apana vayu, which in turn leads to distention of bladder, severe pain and constipation.

- **Treatment:**

- Pure Shilajatu should be rubbed with honey and sugar and licked- off and on.
- Gokshuradi Guggulu
- Shilajatu should be administered with decoction of Veeratarvadi gana.

- **Ushna- vata (Cystitis & pyelitis)**

Aetiology: Excessive exertion, Travelling excessively, Exposure to heat, Hot spicy diet

Pathogenesis: Aetiological factors lead to increased formation of pitta which enters the urinary system along with vata and gives rise to signs of inflammation.

Clinical Manifestations: Burning sensation in bladder, urethra, penis as well as perianal region, Yellowish or reddish discoloration of urine, Dysuria.

Treatment: Cold milk medicated with Jatamansi, Chandan and sugar should be taken with rice kanji. Similarly, paste of root of Tal in rice water is useful.

V. VATASHTHEELA OR ASHTHEELA (BENIGN PROSTATE HYPERTROPHY)

Vitiated vata leads to enlargement of prostate which becomes hard and fixed. This enlarged prostate i.e. ashtheela, leads to obstruction of urethra and rectum. [4]

Clinical Manifestations- Retention of urine with distension of bladder, Constipation, Retention of gases with distension of abdomen, Severe pain in the region of bladder.

Treatment - Ghee medicated with Dashamoola should be administered together with sugar and Shilajatu.

Ashthila-har Yoga 1 – Each Tablet of 500mg contains Ashwagandha Ghana 100mg, Triphala Ghana 100mg, Dashamula Ghana 100mg, Varuna Ghana 100mg, Shuddha Shilajit 100mg to be taken Orally (2tab twice a day before meals) with Kosha Jala as Anupan- for 3 months.

Ashthila-har Yoga 2 – Ashwagandha Ghana, Varun Ghana, Gokshur Ghana, Haritaki Ghana and Punarnava Ghana – Each 100mg. All herbal drugs taken in specified quantity and Ghan Vati is prepared. This Ashthila-har Yoga in tablet form is taken 2 tablet twice a day with luke warm water.

Above mentioned Ashthila-har Yoga has been clinically proved efficacious in the study where, the drug was compared with modern drug named –Tamsulosin Hydrochloride 0.4 mg (at night) for 3 months without any untoward effect.

All the patients enrolled were given daily prostatic massage per rectal digital method.

Similarly, pilot study has been done with adjuvant Dashmool quath – Ashwagandha Ghrut (120 – 80 ML) - daily Basti (Medicated Enema) for 14 days, which revealed statistically significant results in improving AUA Symptom score.

VI. AKASMIKA –BASTISHOTHA (ACUTE GLOMERULONEPHRITIS)

Acute nephritis is characterized by oliguria, haematuria, proteinuria, oedema, hypertension, mild anemia and electrolyte changes which include hyponatremia, hyperkalemia acidosis and azotemia. Complete recovery occurs within 3 to 6 months in cases who survive the acute phase.

Acute post-streptococcal glomerulonephritis is an acute, specific, self limited disease and is the most common form of acute glomerulonephritis.

The application of Ayurvedic principles in the treatment of acute glomerulonephritis is as described below.

Clinical Manifestation	Treatment mentioned
Haematuria	Raktapitta
	Raktaja Mootrakruichhra
	Pittaja Mootrakruichhra
Oedema	Pittaja Shotha
Oliguria	Mootraghata
Albuminuria.	Prameha (Kaphaja)

Following preparations are useful in nephritis -

Chandrakala rasa	240 mg. twice a day.
Chandraputi Praval	240 mg. - 480mg. twice a day
Praval Panchamruta	240 mg. - 480mg. twice a day
Kamadudha	240 mg. - 480mg. twice a day

A. Recipes are likely to be useful in acute Nephritis

Amalaka juice, Kharjuradi churna, Chandrakala rasa, Gokantakadi leha, Kantakari grutha, Drakshapak, Potoladi quath, Patola mooladi quath, Vasadi quath, Gandiradyarishta, Pashanabheda Paka, Palooshakadi Gana.

VII. DRUDAMULA- BASTISHOTHA (NEPHROTIC SYNDROME)

The nephrotic syndrome is characterised by generalised oedema, hypoproteinaemia, hyperlipidemia with hypercholesterolemia and marked proteinuria. It results from increased permeability of glomerular basement membrane to protein. The aetiology is unknown. Untreated patients tend to have prolonged course characterised by recurrent episodes. In some instances, remission may occur spontaneously or after intercurrent illness such as measles.

The application of Ayurvedic principles in the treatment of nephrotic syndrome is as described below:

Clinical Manifestation	Treatment mentioned
Oedema	Kaphaja Shotha
Albuminuria	Kaphaja Prameha
Oliguria	Mootraghata

A. Treatment Suggested:

Oil massage, oral administration of oils, Medicated with kaphashamak and bitter medicines. Induction of sweating and emesis and administration of cleansing enemas and bladder washes are useful. Diet should consist of hot, pungent, food items, buttermilk, Ksharas and Yava. Recipes are likely to be useful in Nephrotic Syndrome:

Kantakari Juice, Eladi Churna, Vyoshnadi Churna, Cardamom powder, Shitivaraka churna (karanja beej churna), Gomutra Haritaki, Saptachchhadadi quath, Punarnavadi quath, Herbal preparations from Varunadi gana, Sursadi gana & Ooshakadi gana, Aragwadhadhi tail, Punarnavadi leha, Praval bhasma, Yava-kshar, Patala kshar, Kaphaj shothahar-yoga etc.

B. Proprietary medicine:

Chandraprabha vati	240-480 mg 3 times a day.
Punarnaarishta	1-2ozs 3times a day.
Goksuradi guggulu	1-2 tab twice a day.

C. The recipes likely to be useful in nephrotic syndrome are:

Varunadi Gana, Sursadi Gana, Ooshakadi Gana, Lodhrasava, Trikatwadi Guggulu, Gokshuradi Guggulu, Mahavangeshwara Bhasma, Pandraloha Rasayana, Mehamudgara rasa, Mehakulantaka rasa, Shilajatu with Shalasaradi Decoction, Navayasa Loha, Dhanwantra Ghruta, Gudardraka yoga, Ardrakadi Ghruta, Yavanakadi Ghruta, Dashmuladi Avaleha, Bhallatakarishta, Punarnavarishta, Kshar-gutika, Guda-pippali Guda Haritaki, Kansa Haritaki, Phalatrikadi quath, Chitrakadi Ghruta, Punarnavadi Ghruta, Souvarchaladi Loha, Shvayathughati rasa, Shothakalamala rasa, Pashanabhedadi Paka.

VIII. MOOTRA- ASHMARI (URINARY CALCULI)

The word Ashmari means stone. In Ayurveda, the word Ashmari is used mainly for urinary calculi. As all types of calculi are solid, they dominate in earth element and kapha dosha. Hence, kaphanashak measures from the basis of treatment of all varieties of urinary calculi.

A. Aetiology:

- Formation of excessive waste products of Vataja, Pittaja, and Kaphaja variety due to improper and inappropriate diet.
- Diet and activity increasing kapha- excessive diet, eating in excess, cold, salty, sweet food items, sleeping during day etc.,
- Accumulation of waste products in the body and later in kidney due to inadequate exertion particularly by kindenys.

- Diseases of genito-urinary tract like venereal diseases act as a predisposing factor for Shukrashmari i.e. prostatic calculi.
- Suppression of urge to urinate (Mootra sandharan)
- One who do not practices regular Panchkarma therapy

B. Pathogenesis :

The increased waste products in body accumulate in the urinary tract. Vata in urinary tract exerts its drying action on kapha, pitta, shukra and mootra i.e. urine, and gives rise to formation of calculus. In addition, hotness of pitta also helps in formation of urinary calculi.^[5]

C. Premonitory symptoms:

These are pain in the region of kidney, bladder, penis and testes, distension of bladder, dysuria, fever, anorexia and exhaustion. The urine has the odour of a goat. Depending on the dominant dosha, the colour of urine varies. The urine is generally thick, abnormal and is passed with difficulty.

D. Clinical Manifestation:

Colicky pain in the region of kidneys, abdomen, bladder, glans penis or perineum gives an important clue to the presence of urinary calculi. The pain is aggravated by running, swimming, travelling and abnormal activities. The flow of urine is split and bifurcated when the stone obstructs the urethra. On the other hand, stream of urine is normal and forceful when the stone does not obstruct the urinary passage. Haematuria occurs when the stone causes ulceration of mucosa. The patient passes gravel i.e. sharkara in urine.^[6]

- **Types :-** Vataja, Pittaja, Kaphaja and Shukraja. ^[7]
- **Age :-** Vataja, Pittaja and Kaphaja calculi are more common in children as throughout childhood, Kapha dosha dominates and in addition children indulge in heavy, fatty and sweet food items. Shukrashmari occurs only in adults.

E. Complications:

Sharkaramaha, Sikata – meha, bhasma – meha (i.e. passage of sugar like, sand like and ash like particles in urine respectively) anorexia, anaemia, thirst, vomiting, weakness, exhaustion, emaciation, pain in flanks, pain in colon and renal angle, and ushnavata i.e. pyelitis and cystitis, are the complications of ashmari.

F. Prognosis:

- Age :- Prognosis is better in children as size of stone as well as size of kidneys and bladder are smaller in children. In addition, surgical treatment is easy as the amount of sub-cutaneous and perinephric fat is less in children.
- If detected early, the prognosis is better as it can be treated with medicines.
- Big calculi require surgical treatment.
- If the calculus is associated with oedema of umbilical region and testes, obstruction to the passage of urine, severe colics and passage of sand like particles, the patient's death is imminent.

G. Renal Colic

The treatment prescribed for vataja mootrakuchchhra and mootrodavarta should be carried out. In addition, the following recipes are useful-

- Roots of Brahmi should be taken with wine (sura), kanji or milk.
- Milk medicated with Haritaki and Punarnava is useful.
- Roots of Barhi-Shikha (Mayurshikha) triturated in rice water are also useful. For details, please refer to the Chapter on Tooni i.e. renal Colic.

H. Vatashmari :

Diet which increases Vata and Kapha doshas leads to increased formation of waste products of Vata and Kapha type. These waste products accumulate in the urinary tract and lead to formation of calculi. When these calculi obstruct the urinary tract, the patient suffers from severe colicky pain. He clenches his teeth, presses umbilicus, pulls the penis and touches the perineal region off and on. He gets splitting and burning pain while passing urine. He passes small quantity of stools with gas frequently and after training he passes urine drop by drop.

The calculus is black, dry, thorny, rough, irregular and hard. Calcium oxalate calculi correspond to Vatashmari of Ayurveda and its crystals to Vatasharkara.

I. Treatment of Vatashmari:

During the stage of prodromal symptoms, medicated ghee and oils should be given. For example-Pashanabhedadi Ghruta, Shunthyadi Yoga, Yavanadi Ghrit, Veeratarvadi Quath, Varuna moola Quath, Shigru Quath, Gokshuradi Churna etc. [8]

J. Pittashmari:

Diet which increases pitta and kapha in body leads to increased formation of waste products of pitta and kapha variety. These waste products accumulate in urinary system and precipitate to form urinary calculi. Such a calculus gives rise to burning hot sensation and inflammatory changes in urinary tract. The calculi are red black, yellow or honey like in colour.

The uric acid, xanthine and indigo calculi resemble pittashmari of ayurveda and their crystals correspond to pitta sharkara. Formulations useful in Pittashmari are: Kushakashadi Ghrit, Pashanabheda Quath, Gokshuradi Kalka etc.

K. Kapha Ashmari- Kapha Sharkara:

Diet which increases kapha in body leads to formation of waste products of kapha variety which accumulates in urinary system and give rise to formation of Kaphaja urinary calculi. The calculus increases slowly and gives rise to symptoms only when it obstructs the flow of urine.

The urinary calculi are large, smooth, white, or brownish in colour resembling that of honey, Calculi formed from magnesium-ammonium phosphate, Calcium- hydrogen phosphate or calcium phosphate correspond to kaphaja sharkara. In addition, the cystine stone and cystine crystals also belong to kaphaja ashmari and sharkara.

Formulations useful in Pittashmari are - Varunadi Ghruta, Ashmari Nashak Yoga, Shigru Quath, Mixed Kshara etc.

L. Shukraashmari:

Suppression of ejaculation or indulgence in excessive sexual intercourse leads to accumulation of semen in seminal vesicles and prostrate and gives rise to seminal concretions –Shukraashmari i.e prostratic calculi.

Shukraashmari obstructs the passage of urine and gives rise to dysuria and pain in bladder, as well as pain and swelling in testes.

- **Treatment:** The general treatment of calculi should be carried out. In addition, following recipes are also useful.
- **Yavakshara:** Yavakshara should be taken with jaggery and coconut water.
- **Ashmari Har- Churnas (General Recipes -Powders):** Punarnavadi Churna, Trutyadi Churna, Manjishtadi Churna, Trikantakadi Churna, Pashanabhedadi Churna, Pashanabhedadi Ghruta, Gokshuradi Churna etc.

M. Ashmari Har Kashaya- Quath (Decoction)

Varunadi Quath, Eladi Kashaya, Varuna Decoction, Shigru mula quath, Shunthyadi Quath, Akalladi Quath, Varundai Quath, Pashanabhedadi Quath, Kulattha Quath etc.

IX. SURGICAL TREATMENT MENTIONED IN SUSHRUT

In case of small stones, the patient should be given large doses of old wine and made to travel in fast moving vehicles like chariots, horse cart etc., so that the stone may come out because of jerks.

If the medical treatment fails or if the size of calculus is big the surgeon should take permission (consent) of the King or Government officer, before undertaking surgery.

A. Preparation of Patient – (Poorvakarma)

The patient should be given medicated oils or ghee which should be followed by appropriate dose of emetic, purgative or enema. Later, the patient should be given oil massage and sweating induced. The patient should be given light nourishing diet. A religious ceremony should be performed and the patient should be psychologically prepared and assured about beneficial effects of surgery.

B. Main Procedure

The assistant should be seated on a high seat. The patient should lie in lithotomy position with head lying on the lap of the assistant and legs flexed at knees and thighs, supported by hands and then tied with bandages. After fixing the patient bimanual oil massage should be performed from above downwards from the level of umbilicus with one hand and pressing the back with the other hand.

The calculus should be allowed to come as much down as possible. Later, index and middle fingers of left hand should be introduced into rectum and bladder is massaged from above downwards till the stone comes near perineum giving rise to a swelling between anus and penis. The incision should be taken on left or right side of perineum

and stone removed by incising the bladder and extracting it with 'Sarpa mukha'- Shalaka Yantra. It is important to see that the stone is removed as a whole and remove all particles and other stones at one sitting. In ladies, it is important to avoid vesico-vaginal fistula or urethral fistula.

After removing calculus, the patient should be advised to sit in a tub containing warm water. So that, the bladder does not get filled with blood.

In case of bleeding, bladder wash with decoction of Kshiri Vruksha i.e. Vata, Pimpal, Udumbar etc., which helps in controlling bleeding because of its astringent action should be give and later medicated ghee and honey should be applied over the wound.

The patient should be given warm rice kanji medicated with Truna-panchamoola, Gokshuraka, Kushmanda, and Pashanabheda together with ghee for three days. From 4th day onwards the patient should be given large quantity of jaggery and milk. From 4th day after surgery, sour fruits like Pomegranate, Amalaka and mutton soup of jangala animals should be introduced in the diet.

The wound should be washed with decoction of Ksheeri-vrukshas. Ghee or oil (Til) medicated with Lodhra, Yashtimadhu, Manjishilla, Pundarik and Haridra should be applied locally as an ointment. Bladder wash is given to wash out the blood clots in bladder.

In the first 7 days urine flows through the incised wound and after 7 days it flows through natural passages when the wound has healed.

In case the urethral fistula persists, the wound should be branded by application of a hot probe. After the natural flow of urine is established the patient should be administered retention and evacuation enemas and bladder washes with medicines having sweet and astringent taste i.e. medicines belonging to Kakolyadi group and Kshiri – Vruksha.

C. Post operative care and Prevention:

For a period of 1 year i.e. till the time the bladder urethra and perineum have regained their natural strength, the patient should observe the following do's and don'ts.

- He should not ride on a horse, elephant or travel in fast moving vehicle.
- He should not climb on mountains or tress.
- He should not swim.
- He should avoid heavy and incompatible food items.
- He should take rice, wheat, Moong, Kulattha, Kushmanda, Meat of Jangala animals, Ginger and Yava Kshara for a period of at least one year.

The surgical technique described in Sushrut samhita resembles to perineal-cysto lithotomy surgery done to remove vesical calculus. [9]

D. Ashmari – Pathya Apathya (Do's and Don'ts)

Emetics, purgatives, enema, fasting, induction of sweating, bath and spray are useful in patients with urinary calculi.

The dietetic items advocated are rice, wheat, java, moong, tandulja, Kushmanda, jangala meat, wine, Ardraka (Wet Ginger) and Yavakshara.

One shall avoid consuming Palak, Chaulayi, Tomatoes, Amala, Chikoo, Cashew nuts, Cucumber (as they have high Oxalate content), Cauliflower, Pumpkin, Mashroom and Brinjal (as they have high Uric acid, Purine content).

Food with High oxalate content encourage Calcium and oxalate stone formation. If level of urinary oxalate is high, by limiting high oxalate foods, risk of forming renal stones can be reduced. Similarly, food rich in Uric acid and Purines increases urinary excretion of uric acid, which pre-disposes to both Uric acid and Oxalate stones.

For those who deserve the healthy kidney, should consume Coconut water (contains Dialysable Bio-molecules which not only can inhibit the initial mineral phase formation & subsequent growth but also stimulate demineralization of pre-formed mineral phase), Cornsilk Tea (rich in Tartrates acting as good inhibitor of stone formation, it exerts Diuretic action. It is specially healing, supportive, strengthening and protective on urinary bladder, thereby, helping eradication of calculi), Barley (exerts diuretic action and has healing and fortifying properties. It is also rich in stone inhibitors), Pineapple (juice contains enzyme which breakdown fibrin, thereby, preventing renal stone formation. Dietary fibres reduce excretion of calcium in urine, perhaps by 40%), Bananas (rich in Vitamins B₆, which breakdown oxalic acid in the body, thereby, preventing stone formation), Almonds (provides rich sources of Magnesium and Potassium which act as stone inhibitors), Lemons (rich in citrates, thereby, prevents Calcium oxalate stone formation), Carrots (rich in Pyrophosphates and plant acid, which act as stone inhibitors. Alos, implication in the pathogenesis of urinary bladder), Horse gram (watery extract-kulatth daal, act as good inhibitor of stone formation), Karela- Bitter gourd (has been found to contain certain stone inhibitors like Magnesium, Phosphorus and Phytoconstituents useful in urinary system and Gout).

The main medicines advised are Yavaskhara, Gokshuraka, Varuna and Pashanabheda. Suppression of micturition, defaecation, ejaculation and incompatible, constipating and heavy diet should be avoided.

E. The recipes useful in ashmari are:

Amalaka juice, Kharjuradi Churna, Surasadi Gana, Ooshakadi Gana, Gokantakadi Leha, Kantakadya Ghruta, Bhadravaha Ghruta, Vidari Ghruta, Bruhat Gokshurakavaleha, Trikantakadi Guggulu, Varunadi Loha, Paste of Cucumber, Milk medicated with Kakolyadi group of medicines, Baladi Kalka, Bala Ghrutha, Mahabaladi Ghruta, Atmagupta Ghruta, Dadimadi Ghruta, Gokshuradi Guggulu, Mahavangeshwara Bhasma, Pancha Loha

Rasayana, Vasant Kusumakara, Vidangadi Loha, Panchanana Rasa, Mehakulantaka Rasa, Shilajatu, Goodardraka Yaga, Kshara Gutika, Shunthyadi yoga, Usheeradi taila, Varunadi Ghruta, Pashanabheda Paka, Anand Yoga, Amala Juice, Ooshakadi Gana, Parooshakadi Gana, Veeratarvadi Gana, Mushkadi Gana.

F. Drugs Commonly Used:

Drugs in Vataja Ashmari: Amlavetas, Eranda, Gokshuraka, Kashish, Nagadanti, Palasha, Pashandbheda, Raktabola, Shilajita, Snuhi, Varuna, Vidanga, Vrukshadana.

Drugs in Pittaja Ashmari: Amaruphala, Eranda, Kadali, Karavella, Kasha, Kashisha, Kokilaksha, Kusha, Pashanabheda, Shaileya. Swarnakshiri.

Drugs in Kaphaja Ashmari: Amlavetas, Eranda, Gokshuraka, Kampillaka, Karavella, Kasha, Kusha, Nagdanti, Palasha, Pashanabheda, Raktabola, Shaileya, Shilajita, Snuhi, Swarnakshiri, Varuna, Vidanga, Vrukshadana.

X. MOOTRA RAKTA (HAEMATURIA)

Haematuria is a manifestation of raktameha, raktapitta i.e. bleeding disorder, ashmari i.e. renal and vesical calculi and tumors of urinary tract. Bleeding per urethra is a manifestation of injury i.e. abhigataja and raktaja mootrakruhchhra and sometimes follows excessive indulgence in sex.

A. Mootraghata – Raktapitta

Haematuria as a result of bleeding disorder.

B. Etiology

Dietary factors : Eating in excess pungent, hot, salty, and sour food, working in sun, physical exertion, exercise, and sorrow vitiate pitta which in turn, vitiates blood and gives rise to bleeding disorder.

C. Prognosis:

It has a chronic course and tends to recur unless the aetiological factors are controlled.

D. Principles of treatment:

- Avoid the aetiological factors.
- One should administer emetics, in strong patients. Emetic should consist of decoction of Indrajiva, Musta, Madanaphala Yasthi and madhu, and should be taken with honey.
- Administration of evacuation and oil enema and administration of appropriate bladder and bowel washes are useful.
- It is better not to control the bleeding in strong patients, as the vitiated blood is being passed in urine. However, if the patient is weak, one should control the bleeding early.
- Diet should consist mainly of milk, ghee, rice and Glycerrhiza powder.

E. Treatment :

- Milk medicated with Gokshuraka and Shatavari.
- Milk medicated with Shaliparni, Mudgaparni, Mashaparni and Prushnaparni. It is useful in haematuria with pain.
- Ghee medicated with Panchamoola.
- Paste of Udumbara, dried grapes should be kept over night in water and taken next day morning.
- Chandrakalarasa in dose of 60-120 mg. 3-4 times in a day.

The recipes useful in colicky pain with kidney disease are: Gokantakadi Leha, Bruhal Gokshurakavaieha, Baladi Kalka, Mahabaladi Churna, Atmagupta Ghruta, Meha Kunjara Kesari Rasa, Goodardraka Yoga etc.

F. Bleeding per urethra:

(Following excessive indulgence in sex) Bleeding per urethra following excessive indulgence in sexual intercourse.

G. Treatment:

- Brahma-charya i.e. observing celibacy. Diet should predominantly consist of meat, milk and ghee.
- Brunhana vidhi –
- Introduction of Til oil or fat of cock in urethra.

XI. POOTIBASTI (URINARY TRACT INFECTION)

Urinary tract infection- Urinary tract infection are characterised by significant amounts of bacteria in urine. It is classified as a pyelonephritis- where the infection involves pelvis and parenchyma of kidney, and b) cystitis- where the infection is localized to the bladder.

Depending on the severity of infection, the clinical picture of pyelonephritis varies from asymptomatic episode detected only by examination of urine to the full blown picture with toxic fever, chills, severe malaise, dysuria, urgency and frequency of micturation and pain in renal angles. Usually, the recovery is complete. However, some cases proceed to chronic pyelonephritis characterised by frequent relapses of infection or continuous excretion of bacteria.

Cystitis may be asymptomatic or associated with dysuria, burning sensation, frequency, dull pain over bladder. In case with persistent urinary tract infection it is important to rule out underlying obstructive pathology.

A. Treatment of urinary tract infection:

Decoction of Punarnava, Devadaru, Shunti, Dashmoola and Haritaki.

Decoction of medicines belonging to Varunadi gana (ref. drug in urinary disorder) Powder of medicine belonging to Ooshakadi gana. Shigru(drumstick) should be used in various forms as food preparations. Similarly, drugs such as Gokshuradi guggulu, Triphala guggulu, Shilajita and Chandrapbha vati are also effective in the treatment of urinary tract infection.

B. The following recipes are likely to be useful in ushnavata (pyelitis & cystitis)

Bhadravaha Ghruta, Vidari Ghruta, Bruhat Gokshurakavaleha, Milk medicated with Vidarigandhadi Group, Bakadu Kalka, Bala Ghruta, Mahabaladi Churna, Atmagupta Ghruta, Vidangadi Loha, Loharishta, Goodardraka Yoga etc.

XII. BASTIJA-GULMA (HYDRONEPHROSIS)

A. Pathogenesis:

Congenital weakness of the urinary tract and acquired weakness following emaciation lead to Bastija-Gulma. In addition, to obstruction of the urinary track by kapha, Urinary gravel or stone or following inflammatory stricture lead to distension of proximal parts, which though cystic may often resemble a tumor. Depending on the dominant dosha, gulma is divided into vataja, pittaja, kaphaja and sannipattaj types.

B. Clinical Manifestations Of Gulma

Local swelling, pain, suppression of the urge for micturation, exhaustion, weak digestive power and pallor are the manifestations of gulma.

C. Treatment:

Treatment consists of oil massage, administration of medicated ghee, induction of sweating, administration of enemas, and evacuation of the bladder by passing urethral bougies.

- Milk medicated with panchamoola and shilajatu should be administered- vataja gulma.
- Diet dominating in Chicken, meat of peacock, tittir, swan, wild sparrow, rice, ghee, amalaka, snake gourd, grapes, date and promogranate is useful.
- Tikta ghruta, vasaghruta and milk medicated with jeevaniya and nyagrodhadi group of medicines is useful in pittaja gulma.
- Ghee medicated with amalaka juice, sugarcane juice and paste of haritaki useful in pittaja gulma.
- Kushtadi churna: Powder of kushtha, shama, trivrut, Danti, Haritaki, Yavakshara and Guggulu should be taken with cow's urine in kaphaja gulma.
- Garlic - vataja gulma.
- Wine medicated with coriander is used in vataja gulma while water medicated with laghu-panchamula is used in pittaja gulma.
- Dashamulaghruta-. All three varieties of gulma.
- Bhallataka ghruta- kaphaja gulma.

D. Complications:

Colicky pain, piercing pain, constipation, retention of urine, dyspnea, rigidity, thirst, burning sensation, anorexia, vomiting and heaviness of the body are the complications of gulma.

E. Surgical Treatment of Bastija-Gulma

The lump is fixed by cupping. An earthen vessel with the size of its mouth appropriate to the size of gulma is taken and filled with grass. The grass is kindled and the vessel is inverted and fixed over the renal angle. The resultant vacuum sucks the lump partially which is then fixed by

means of the hand. The earthen vessel is later broken. An incision is taken and the lump is scooped out by means of Vimarga, Ajapada or Adarsha variety of scoops and excised. One should take care to avoid injury to the intestines and heart. This technique needs further validation.

F. Bad prognostics in gulma:

- If colicky pain in abdomen, distension, borborygmi and discolouration of skin are the prodromal symptoms, the prognosis is bad.
- Gulma of very large size is often difficult to cure.
- If gulma is associated with nausea, thirst, pain and breathlessness, it is fatal.
- Gulma associated with weakness, anorexia, nausea, cough, vomiting, fever, thirst, drowsiness and oedema is difficult to cure.
- Gulma which is projecting, hard in consistency, covered with vein and associated with fever, cough, breathlessness, sinusitis, vomiting, diarrhoea, hiccup and oedema is fatal.
- If a person with gulma dreams of thorny creepers, bamboo or palm tree growing on his cardiac region, his death is certain.
- A debilitated patient suffering from gulma carries bad prognosis.

G. Medicines in Vataja Gulma

Ajamoda, Ahaliva, Amravrukshaphala, Apamargakshar, Balamoolaka, Bhallataka, Gomutra, Hapusha, Haritaki, Hingupatri, Jalashukhti, Karanjtaila, Kshar, Lavana, Rohitaka, Shathi, Shatavari, Shigru, Snuhi, Vidari, Varuna.

H. The Recipes Useful in Gulma with Kidney Disease are

Vidari Ghruta, Baladi Kalka, Bala Ghruta, Mahabaladi Churna, Atmagupta Ghruta, Vidangadi Loha, Goodardraka Yoga, Yavanakadi Ghruta, Chitraka Ghruta, Dashamuladi Avaleha, Kshara Gutika, Chitrakadi Ghruta, Punarnavadi Ghruta, Ooshakadi Gana, Parooshakadi Gana, Varunadigana, Pippalyadi Gana etc.

I. Medicines in Pittaja Gulma:

Amravruksha-Phala, Ashoka, Gomutra, Haritaki, Indraravuni, Jalashukhti, Kamalakandh, Kumari, Shatavri, Trayamana.

J. Medicines in Kaphaja Gulma:

Ajamoda, Amravrukshaphala, Apamargakshar, Ashoka, Balmoolaka, Bhallatak, Devdaru, Gomutra, Hapusha, Haritaki, Indraravuni, Jalashukhti, Kshara, Krushnabola, kumari, Lasoona, Renuka, Rohitaka, Saptaparna, Sharapunka, Shatavari, Shati, Shigru, Shonaka, Varahi etc.

XIII. BASTIJA ARBUDA (TUMOR OF URINARY TRACT)

A. Tumors of the kidney

Sushrut has described six varieties of arbuda i.e tumors. These tumors are characterised by slow or rapid growth with absent or minimal pain and without suppuration.

They are classified as Vataja, Pittaja, Kaphaja, Raktarbuda, Mansarbuda and Medojarbuda. Of these, Raktarbuda and Mansarbuda grow rapidly, are malignant

and are incurable. Raktarbuda is a rapidly growing vascular tumor which easily bleeds and is associated with anaemia. [15]

B. Prognosis

Tumors (malignant) of the kidney are incurable. Adhyarbuda i.e. tumors with satellite growths as well as Dwirarbuda i.e. tumors with secondary deposits are incurable.

Tumors encroaching on urinary passage as well as all fixed, immobile tumors are incurable.

C. Treatment

Application of medicinal leeches, caustics, branding and surgical removal form the mainstay of treatment. In addition, the medicines used for kidney abscess, and Gulma should be administered.

Guggulu and Shilajitu should be used a long with appropriate medicines viz. Varunadi and oshakadi group of medicines.

D. Lingarsha

Irritated doshas vitiate the blood and muscular tissues of the penis leading to itching and ulcer formation. Warty and Papillomatous eruptions arise and are associated with sticky, mucoid and blood stained discharge. If not treated, they may destroy the penis. Lingarsha includes papiiloma, condyloma, granuloma, and malignant growth of modern medicines.

E. The Recipes Useful in Kidney Tumors and Abscess are

Varunadi Gana, Ooshakadi Gana, Sukumar Kumarak Ghruta, Baladi Kalka, Bala Ghruta, Mahabaladi Churna, Atmagupta Ghruta, Chandraprabha Vati, Vidangadi Loha, Ashwagandha Pak, Shilajitu, Loharishta, Dhanwantara Ghruta, Goodardraka Yoga, Punarnavarishta, Gudapippali or Gudaharitaki, Kansa Haritaki, Parooshakadi Gana etc.

XIV. BASTIKARYA VIGHATA (RENAL FAILURE)

Renal failure is an entity resulting from uncompensated reduction in renal function. It is classified as acute and chronic. Acute renal failure results from acute reduction or cesataion of renal function which may arise as a complication of other diseases like mootrakshaya i.e. oliguria following acute dehydration. All chronic progressive kidney conditions like Mootraghata, Mootraja udavarta, Mootrakruchchhra ultimately lead to renal failure. In renal failure the waste products which are normally excreted in urine accumulate in the body and disturb the normal function of all the tissues and organs in the body. Hence, there is no clinical manifestation which is not encountered in uraemia.

A. Clinical Manifestations

These are classified as

- Nervous System : These are headaches, burning sensation, blindness, deafness, mental disorders, breathlessness, unconsciousness, drowsiness, vataja disease i.e. convulsive or paralytic disease.
- Cardiovascular system : These are heart disease, pain in cardiac region, breathlessness, cough, bleeding disorders, unconsciousness and drowsiness.
- General Symptoms : These are anorexia, nausea, vomiting, hiccup, colds, distension of abdomen, thirst, malabsorption, dysentery, malnutrition, anemia, emaciation etc.
- Infections : Fever, dysuria etc.,

B. Treatment

Panchakarma is suggested which promotes excretion of waste products by roots other than kidneys. One should administer emetics, purgatives, as well as cleansing enemas so that the waste products are removed to some extent.

Blood letting in small quantities is also helpful. While using these methods of purification of body i.e. Panchakarma, one should closely observe the general condition and strength of the patient and administer the appropriate dose of the indicated cleansing measures. In modern medicines more advanced and refined forms of purifying methods like exchange transfusion, peritoneal dialysis and artificial kidney are used. Application of leeches to the temporal region and administration of cleansing nasal snuffs are useful when the neurological manifestations are present. While using the various cleansing recipes, one should add medicines like Gokshuraka, Punarnava etc. which will improve the renal function.

Induction of sweating is also useful as it helps to get rid of toxic metabolites through sweat.^[11]

C. Symptomatic treatment

While administering symptomatic treatment one should remember not to administer diet or medicines which will be harmful to kidneys. For fainting and convulsions, giddiness one should administer the following medicines:

- (1) Vatavidhwansa. (2) Bruhatvata Chintamani (3) Hemagarbha. (4) Sameerapannaga (5) Suvarna-sutashekhar (6) Lakshmvilas Rasa (7) Abhrakabhasma. (8) Punarnavarishta.

D. For Bleeding in uremia one should administer

Chandrakalarasa	30mg.
Pravalbhasma	60mg.
Mouktikabhasma	30mg.
Suvarnamakshik	60mg.

The above One packet of mixture to be given 3-4 times a day.

XV. DISCUSSION AND CONCLUSION

In Ayurved, the term 'Basti' includes Urinary organs from Kidneys to the bladder. It helps in regulating excretion of the metabolites and waste products such as Dosha, Dhatu and Mala. As per Sushrut Samhita, two ureters carry urine from Basti towards urethra in the body. It is mentioned that both kidneys act as one single functional unit, Basti sheesha is taken as one single functional unit. Further, the word Vrukka is not mentioned in the chapters on disease of the urinary system. Embryologically and functionally Vrukka have been related to fat metabolism, and Vrukka arises from the essence of fatty tissue and blood. Hence, we consider Vrukka as suprarenal gland.

Ayurveda states that Mootra-vegavrodh (suppression of urge to micturate) is one of the prim cause of the diseases of the urinary tract. Similarly, unsalutary life style – food habits, changing job pattern progressive urbanization and inadequate toilet facilities, this cause has assumed greater importance.

In this review article, pathophysiology, clinical features and treatment of diseases such as Mootrakrichchhra (Dysuria), Mootraj Udavarta (Nerological dysfunction), Mootraghata (Obstructive uropathy), Vata Ashthila (BPH), Bastishoatha (Nephritis) Nephrotic syndrome), Mootra Ashmari (Urinary calculus), Mootra rakta (Hematuria), Pooti Basti (Urinary tract infection), Basti gulm (Hydronephrosis), Basti Arbud (Tumour of urinary tract) and Basti karma Vighat (Renal failure) are discussed to explore the basic concept and holistic management of common urological disorders. Further, sincere effort has been made to acquaint the reader with the wealth of knowledge available in Ayurvedic literature on the important subject of Urology.

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