

“AYURVEDIC CONCEPT OF URINARY EXCRETORY SYSTEM; W.S.R. TO KRIYA SHARIR”

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ABSTRACT

Ayurveda is the heritage of health care and a way of life. *Dosha*, *Dhatu* and *Mala* are the basic principles on which our entire Ayurveda is based. These three are in equal balanced proportion is very important to maintain our human body and keep it in a disease free state. Disturbance of *dosha*, *dhatu* and *mala* results many disorders which require correction so as to help the patient clinically. Fortunately, ancient science of Ayurveda has propagated various principles and disease related measures, in order to restore health. *Ayurvedic* approach to urinary system is highly logical, conceptual and scientific.

Normal functions of living organism are human physiology when there is disturbance of human physiology there is pathology occurs. So it is most important to know Ayurveda physiology. Urinary system of human body is explained in various Ayurveda text books. Ayurveda is a complete “A holistic approach to urinary health considers diet, lifestyle and environmental issues. Here review role of *Mala* i.e. *Mootra* with principles of Ayurveda, *Mootra* in relation to *Dosha*, *Dhatu*, *Mala*, *Sara*, *Prakriti*. Ayurveda is a complete, conventional, efficient and popular ancient medical system practiced in India. The aim of this review to upgrade the knowledge related to ayurvedic physiology of urinary system so as to prevent, diagnose and can treat the disorders of urinary system. Ayurveda is a global need of the day because treatment is effective and also safe is the unmatched quality of Ayurveda. In this article expanding ayurvedic human physiology and also highlighting the diseased condition.

KEYWORDS: Physiology, Urinary system, Dosha, Dhatu, Mala, Mootra.

INTRODUCTION

“*Samdosha Samagnischa Samdhatu Malkriyah Prassnatma Indriya Mana Swastha Ityabhidiyate.*” Ayurvedic techniques focus on achieving that balance of trienergies that are *Vata*, *Pitta* and *Kapha*. Health according to *Ayurveda* is balance of these trienergies. Their imbalance is the cause of disease or ill health. Their balance is disturbed by irregular lifestyle, prolonged physical and mental stress, wrong dietary habits, incompatible foods, misuse of senses. *Dhatu*(tissues) there are seven *dhatu* which support our body. *Dhatu* described in *Ayurveda* are the various organs and parts of our body. They are *Rasa*(Plasma), *Rakta*(Blood), *Mamsa*(Muscles), *Meda* (Fatty tissue), *Asthi*(Bones), *Majja* (bone marrow), *Shukra* (Semen and Reproductive tissue). *Mala* represents the byproducts resulting from the physiological and metabolic activities going inside the human body. *Mala* is an important topic of human physiology or *Sharir kriya*. The three primary *Malas* being *Purish* (Faeces), *Mootra* (Urine) and *Sweda*(Sweat). *Malas* (waste products) forms the essential and basic components which support the vital functions of the human body. *Srotas* are the channels of circulation present in the human body. Physiological great importance to *Srotas*. *Charakacharya* says that *Srotas* as the channel through which various important physiological functions takes place. Physiological point of view, channels are primarily responsible for the circulation of products. Physiologically tissue performs significant functions. To ensure its own nutrition and to provide nutritional factors for the development of corresponding tissue. *Mootra* (urine) is important waste product of the human body. *Mootravaha srotas* (urinary channels of circulation) the *Vrikka*(kidneys) and *Mootrashaya* (urinary bladder) are the originating point of *Mootravaha Srotas*.

▪ DISCUSSION

Mala According to Ayurveda

Like *Prakriti*, *Dhatu*, *Dosa* and *Updhatu*; ‘*mala*’ concept is unique in *Ayurveda*. *Mala* known as *Aatmbala* by *Aacharyabhela*, *Aacharya Bhavprakash* says in *mala* specially life (*jiv*) is remain and *Aacharya Yogratnakar* says that life depend on *mala*.

Sthool pachan i.e esophageal digestion. During digestion end product form is divided into in *saraform* (*aahararasa*) (*dhatu poshak ansh*) and *kittabhag* (*mala poshak ansh*).

- Types of *malas* are *sthoala mala* that are the *mootra*, *purisha* and *sweda*. *Sukshma mala* that are form on *dhatu* level.

- *Sukshma mala* like *rasa dhatumala* is *kapha*, *lasika* (lymphatic fluid) (says by *ashtang samgrahakar*), *rakta mala* is *pitta*, *mamsa mala* is *khamala* (secretions of nose, eyes and ear), *meda mala* is *sweda* (sweating), *asthi mala* is *kesh*, *loma*, *nakha*, *smshashru* (hair, nails, beard), *majja mala* is *sneha* of *akshi*, *vita*, *twak* (eye secretions, fecal secretion, oil or sebum secretion) a *sneha bhag*. *shukra mala* is *oja* (immunity).

- ***Sthool mala* that is *mootra*(urine)**

Synonyms for *mootra* are the-*bastimala*, *meha*, *mootra*, *nrujalam*, *prastrava*, *strava*.

- *Synonym Bastimal* give to *mootra* according to storage function, *meha* and *mootra* is for excretion related, *prastrav* and *strav* is for physiological action related.

Location According to- urine formation is *vrikka* (kidney), for carrying is *Gavinya* (ureters), for storage is *mootrashaya* (urinary bladder), for excretion *Mootraprasek* (urinary spinster's, urethra).

Panchbhautik sanghatan of *mootra* is *Jal* and *Agni mahabhut* (water and fire constitution). Praman of *mootra* says is *4 Anjali*. *Guna* i.e. touch sensation is slightly hot. *Roop* i.e. colour is slightly yellow. *Ras* i.e. taste is salty and spicy. *Gandha* i.e. smell is special smell is a urine smell (like ammonia). Urine is present in the form of liquid.^[1] Urine having main function is *kledavahan*.

Pathology in *Mootra* that is polyuria means excess urine formation with penetrating pain and also desire to urinate after urination.^[2] When there is Less urine formation in kidney then occurrence of symptoms is the less quantity of urine excretion, difficult urination, bloody urination, changing color of urine.^[3]

***Mootra* and *Vata* dosha relation**

- **Micturition** is process of excretion of urine from urinary bladder.
- **Nervous control**

1. **Pelvic nerve** – supply Sensory fibers from bladder to 2nd, 3rd segment of spinal cord. Motor fibers from sacral segments of spinal cord to wall of the bladder.

2. **Pudendal nerve-** supply skeletal motor nerve fibers to external urinary sphincter of bladder.

Roll of Cerebrum and Pons in originating micturition reflex

Sensory signals from sacral spinal cord to pons and thalamus. Thalamus to cerebral cortex. In inconvenience, cerebrum prevent urination by pudendal nerve and external urinary sphincter contracted. When convenient and desired, cerebrum decreases motor control over external urinary sphincter by pudendal nerve and urination occurs.

This micturition process is carried out in the body by *Vata dosha*. As all the movements are due to *vata*.^[4] Out of 5 types of *Vata*, the excretion process is done by *Apan vayu*.^[5]

When *Apan vayu* get vitiated it causes obstruction of *mootravaha srotas* leading to painful micturition as there is no pain without intervention of the deranged *vayu*.

Suppression of urination- it leads to Collection of urine in bladder. This leads to the over stretching of bladder, thus stimulating the pain in bladder to evacuate this collected urine, force has to be applied thus causing painful micturition. UTI- Bacteria cause UTI typically enter bladder via urethra. Infection also occur via blood. Bacteria transmitted to urethra from bowel, with greater risk due to anatomy. After gaining entry to bladder, *E. coli* attach to bladder wall and form a biofilm that resist body's immune response.

Mootra and Pitta dosha relation

Increased in *pitta dosha* that is *Raktamala pitta* makes urine yellow (here *pitta* indicates the one which is formed during formation of *raktadhatu*).^[7] This can be correlated in modern with RBC destruction which produces bilirubin. This bilirubin then gives color to the urine.

In Pitta Prakriti persons get excess secretion of urine.^[8]

Raktavaha stotas moolasthanas is a liver and spleen. *Raktamal pitta* form in liver. Liver also called *Raktashaya* and it is the place of *Ranjaka Pitta* by sushrutacharya. *Raktamala pitta* function is to gives color to urine and then after that to excrete. Deformity in *Raktamala pitta*, to develop jaundice. *Kapha* production- '*ken Jalen phalati iti kapha:*'. The particular *dosha* is *kapha* consisting of abundant fluid. Pathology is increase in *drava guna* so *kledak kapha* vitiated and causes *dhatvagnimandya* by charakacharya. Common symptoms develop is more *kleda* formation and for this excretion of *kleda* more urine form and polyuria like symptom is associate. *Mootravaha srotas* (channels carrying urine) have their root in *basti* and *vanksana*. Symptoms of their morbidity are these such as excessive excretion, excessive obstruction or suppression, vitiated, diminished or frequent thick urine with pain indicate the morbidity of

mootravaha srotas.^[9] Def of Polyuria is excessive production or passage of urine. Whenever red blood cells are destructed there is increase in bilirubin production and urine becomes more concentrated and dark yellow urine appears.

Mootra and Kapha dosha relation

According to Charakacharya, the function of *kapha* is to produce *kleda*. The body fluid in which *dhatu*s are dissolved known as *kleda*. *Kleda* which is thrown out of body through urine excretion. When there is excess excretion of *kleda* through urine which can be correlated with the condition is Polyuria.^[10] Definition of polyuria says that excessive production or passage of urine.

Mootra and Dhātu relation

Mootra and Raktadhatu relation

Panchabhautik samghatan of *Mootra* and *Raktadhatu* is same that is *jala* and *tej mahabhuta*. *Mootra* is formed from *tej*(fire) and *jala* (water). *Rakta*(blood) is formed from *tej*(fire) and *jala* (water). Both are formed from same physical constituents and same qualities both have. Urine formation is actually made from blood. So there is relation between the urine and *rakta dhatu* i.e. blood. The steps including Glomerular filtration which is the Process by which blood filtered while passing through glomerular capillaries by filtration membrane. It is first process of urine formation.

Mootra and Mamsadhatu

Mamsa dhatu (muscle tissue) function is to regulate and retention of urine. Detrusor muscle have a capacity to strengthen tension on Bladder. Urination requires relaxation of external and internal urinary sphincter with contraction of detrusor muscle. When external sphincter relax then only internal sphincter relax and urination takes place.

Mootra and Medadhatu

The kidneys (*vrikkas*) are made out of the essence of the blood and fat.^[11] *Medovaha srotas moolsthana* by charakacharya is *vrikka* (kidneys) and *vapavahan* (omentum)^[12] *Mootravaha srotas* are the urine carrying channels have their root in *basti* (kidneys) and *vankshana* (waist region).^[13] The urine carrying *srotas* have their roots in the bladder and the penis (urethra), Fat carrying *srotas* (ducts) have their roots in the region of the *kati* (waist region) and the *vrikkas* (kidneys). *Moolsthana* of *meda dhatu* is kidney so there is relation of *medodhatu* with kidney. *Medovaha srotas* are affected due to lack of physical exercise, day sleep, excessive

intake of fatty food and alcoholic drinks.^[14] When there is occurrence of pathological changes in metabolic process of *meda dhatu* then there will be occurrence of improper functioning of kidney. That's improper functioning of kidney, then will be arise *prameha* like *vyadhi*. In *prameha*, *meda dhatu* get vitiated so the *moolastana* of *medadhātu* i.e. kidneys got to anatomical and physiological deformity. The improper functioning of kidney which transferred into a diabetes mellitus.

Mootra and Sarata

Medasarata

Reference about *vrikka- vrikkau utpatti* -For embryological origin of kidneys arise from Rakta and Meda.^[15] The persons with essence of medas have particular unctuousness in urine and feces.^[16] The meda is oily which is says in a literature of *shabdaklpadrum* giving definition such as the substance which is oily known as a meda.

Peritoneum composed of a layer of mesothelium supported by thin layer of connective tissue. Structures in abdominal cavity located behind intraperitoneal space called retroperitoneal (e.g. KIDNEYS). Peritoneum composed of a layer of mesothelium supported by thin layer of connective tissue. Structures in abdominal cavity located behind intraperitoneal space called retroperitoneal (e.g. KIDNEYS).

Ayurvediya mootra parikshan- aacharya yogratnkr explain *ayurvediya mootra parikshan* as a *tailabindu parikshan*. In ancient year there are no any instruments and methods develop for urine examination then our *aacharyas* do *parikshan* according to direction of flow of urine on oil. In this they are saying that when urine goes to north direction it mean health, in south direction mean happiness, in west direction fever and disease is mild difficult to treat, when in north-east direction death is confirm, when in east-south direction in urine have a filter pore like holes, when to east-south patient cannot live when give any type of rejuvenation or *rasayan*, when in north-west can live just one month.

CONCLUSION

In *Ayurved samhita dosha, dhatu* and *mala* are described. *Samhita* text explained two type of *sharir mala* i.e. human excretory product and *dhatumala*. Here we explain *sharir mala*. *Mala* do function of *dharan* for treatment purpose i.e. the present study establishes the relationship between *mootra mala* and urinary excretory system. This study is link *Ayurveda* and suspected modern corelation. Also this study to understand practical use of *Ayurveda* review

knowledge. For better clinical approach in practice we have to require this type of theriological knowledge.

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