Conceptual Study of Physiology of Urine Formation in Ayurved

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Abstract:
In Ayurved concept which deals with natural urges of body like hunger, thirst, urination, defecation etc. Mala represent the third member of the trinity of the body, the other two members being the Dosha and Dhatus. Mutra or urine is a liquid waste product of food. It must be eliminated out of body. Process of urine formation begins in Pakvashaya. The Poshaka Mutra which is separated from Kitta is absorbable from Pakvashaya and brought to Basti. Mutra (Urine) formation occurs in Mutravaha Srotas. Main organ of Mutravaha Srotas are Basti (urinary bladder) and Medhra (urethra) according to Susruta. When the Drava Rupi Mala Bhaga of Ahara Rasa reaches the Basti then it is considered as Mutra.

Keywords: Mala, Mutra (urine), Basti, Mutravaha Srotas.

I. INTRODUCTION
Ayurved kriya sharir is mainly based on Dosha, Dhatu, and Mala. Function of the body performed by Doshas, Dhatus sustains the body. The substance which pollutes the body known as Mala. It is the waste product of the Ahara Parinama. The word Mala is formed by verb root Mala –“Dharane” which indicates its sustaining character. Mala are counted in two categories: Annamalani and Dhatumalani. Annamalani are Purisa, Mutra and also Sweda described by Astang Hridayakar (During formation of Dhatu by Dhatwagni). Purisa, Mutra and Sweda are considered as main excretory product of the body & called as Mala due to their principle property of Malinikarani i.e. intoxication. Sapt Dhatus Mala while they undergo Paka by their Dhatwagnis. They are eight in number as suggested by Charak, Seven in number as suggested by Sharangdhara Samhita. Jatharagni acts on food & digest in into Sara which is used for the formation of Dhatu unabsorbed part is Kitta. Kitta is not totally useless. It circulates in body. It contain some nourishing material, other body entity than Rasadhatu can make use Kaphadosha is such entity, which can use nourishing material from Kitta portion. Solid part of this Kitta is Purisa, which store and expelled out from Purishvaha Srotas. Liquid part goes to Mutravaha Srotas where it is called as Mutra. Apana Vata is located in the urinary bladder (Basti). It’s Function is the voiding of urine (Mutra).

Mutra
Mutra or urine is a liquid is a waste product of food.

Panchbhauitika constitution of Mutra-
Mutra predominantly consist of Jala and Agni Mahabhuta.

Qualities of Mutra
Lagu (light), Tikshna (sharp), and Ushna (hot) are the qualities of Mutra. It is pungent and salty.

Function of Mutra
The urine fills the bladder and helps in the maintenances of the water balance of the body and excessive fluid of the body is removed by this Mutra. Function of Mutra is maintenance of Kleda around all the cells. Kleda is moisture.

Srotas Vivaran
Mutravahasrotas(channels of urine) are two their Mula (chief organs) are Basti (urinary bladder) and Medhra injury to these produces enlargement of the bladder obstruction to micturation and loss of movement of the Medhra.

II. PHYSIOLOGY OF URINE FORMATION IN AYURVED
In charak samhita principle organs of Mutravaha srotas are denote as Basti (urinary bladder) and Vankshana. Main organ of Mutravaha Srotas are Basti (urinary bladder) and Medhra (urethra) according to Susruta. Acharya Sharangdhara also describes formation of urine is as that part of digest food, which is absorbed is known as Rasa and unabsorbed (waste part goes to Basti by vessels (Mutravaha Srotas) where it is called as Mutra. Susruta described formation of urine in the description of Pitta dosha. Where it is mention that after digestion of food Dosha, Ahara rasa, Purisa and Mutra are formed. This formation occurs in Pittadharakala and process of the micturition is controlled by Apan Vayu. Process of urine formation begins in Pakvashaya. The Poshaka Mutra which is separated from Kitta is absorbed from Pakvashaya and brought to Basti in the following manner. As water in the river is drained into ocean continuously abdominal, in the same way urinary ducts (Mutravaha Srotas) from Pakvashaya carry Poshaka Mutra to Basti. Urinary ducts and their fine branches are spread in the cavity around Pakvashaya and Amashaya, which constantly drains Poshaka mutra to Basti. When Basti gets filled with urine, due to action of Apana Vayu, urine is excreted.

III. DISCUSSION
Mutra or urine is compase mainly of Jal and Agni. Ayurved list two main types of Mala, Ahara Mala and Dhatu Mala. Ahara Mala inudes Purisha, Mutra and Sweda. The Drava Rupi Mala bhaga of Ahara rasa gets the recognition as Mutra when it
reaches the Basti. By considering there two aspects (i.e. site of formation and organ responsible for excretion) only Basti and Medra are considered as the Mula sthana. Basti is the site of formation and origin of Mutra and Medra is the organ responsible for the excretion of Mutra. So we can say that the fully formed Mutra gets collected in the Basti. The urine carrying channels originating from the Pakvasya always fill with urine in the same way as the rivers fill the sea. Their mouths or openings are in thousands and because of their being extremely minute are not seen that bladder gets filled up with urine by percolation having been carried there, by channels from the Amasaya during waking as well as sleep. As a new pitcher sunk into water up to its mouth fills up from the sides, similarly bladder gets filled up the urine. Hence periodically it is being eliminated out of the body from the urinary bladder through urethra. Hence Medra is considered as the Mula sthana of Mutravaha Srotas since it does the Vahana of Mutra which is being formed in the Basti.

IV. CONCULSION

The Dosha –Dhatu-Mala form the base of the knowledge of anatomy, physiology, pathology and treatment in Ayurved. The Mala represent the entities which are by product of metabolism and thus deserve to be expelled out. The accumulation of Mala leads to the disease. In normal state it provides strength of man depends up on Shukra while life depends on Mala, thus Vrinda and Chakrapani said. Main source of nourishment for our body is food. After digestion in gastrointestinal tract, it is divided into Sara and Kitta. Sara will get absorbed will be called as Ahararasa. The Drava Rupi Mala bhaga of Ahara rasa gets the recognition as Mutra when it reaches the Basti. When Basti gets filled with urine, due to action of Apana Vayu, urine is excreted.

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