



A CRITICAL REVIEW ON SHAYYAMUTRATA IN CHILDREN

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INTRODUCTION

Bedwetting is one among the common psychosomatic illness seen in the school going children due to various reasons. About 7% of male and 3% of female children fail to adapt diurnal and nocturnal control of bladder by the age of 4-5 years. Nocturnal enuresis is involuntary passing of urine during sleep, occurring after the age by which bladder control should have been established i.e 4-5 year. However it is observed that incidence of enuresis is more common in male children than female children with ratio of 3:1. Medical intervention is required if bedwetting persists beyond the age of 5 years. However factors like psychology, delayed development of bladder control capacity and improper toilet training should also be kept in mind.

Routine management of nocturnal enuresis involves prescription of medicines like desmopresin, which has lots of limitations as it causes water intoxication and hyponatremia on a long run, it is not advisable to follow. So children with Nocturnal enuresis approach Ayurveda physicians for the better treatment. It is treated as Shayyamutra in Ayurveda. The word Shayyamutra denotes- A child unknowingly passing urine during sleep at night due to the influence of doshik factors. As per Ayurveda, the treatment for it is to attain neurological maturity and attainment of bladder control. Medhya dravyas like Bimbi, Jathimoola, Avarthaki pushpa having effect on neurological maturity are being used in the treatment of Shayyamutra.

The concept of urine formation has been described by various Acharyas in special and different ways. They consider the Mutra as a Mala, which is absorbed in the Pakvashaya, this clears many doubts.

About urine formation Acharya Sushrut explains that Mutravaha Nadis related to Pakvashaya consistently replenish the Basti, like river carrying water from different regions to ocean. These Nadis divide into innumerable branches and are not visible. The Mutra drained from interiors of Amashaya and Pakvashaya enters Basti both in awakening as well as in state of sleep. It is a continuous process like a new pot immersed up to its neck in water, gets filled by water through its lateral pores. According to Acharya Sushrut the Pachak-Pitta residing between Amashaya and Pakvashaya is responsible for the digestion of four kinds of food and separation of the Rasa, Mutra and Pureesha.

CONCEPTUAL REVIEW

Ayurvediya Review

When we go in quest of different authentic classical texts, only a few references were found on Shaiyyamutra.

They are listed as below.

None of the Bruhat-Tradees had explained the disease Shaiyyamutra.

1. In 12th Century A.D., Vangasena, in his book Chikitsa Sara Sangraha mentioned the complaint of Shaiyyamutra and gave its management. He had not described any etiology or pathology of the disorder.

Vangasena had not mentioned any specific therapy for its management, except psychological therapy and a formal recipe, which is as follows –

- A. The child is asked to kneel down on his knees, at the place where he used to pass urine. He is asked to hold the finger(s) of his feet by one hand and then eat cooked rice offered in a plate with another hand.
- B. The clay collected from the place of urination (of child) should be fried in a vessel and administered to the child with honey and Ghrita.
2. In 13th century A.D. Shargnadhara Samhita, has enumerated Shaiyyamutra under the 22 diseases described in “Balaroga Prakarana”, but the detailed description of Shaiyyamutra is missing further.
3. In 19th century A.D. in Bhaishajya Ratnavali, Acharya Govinda Das, added use of Bimbi-Mula or Ahiphena in Shaiyyamutra Chikitsa. This was described in the context of Kshudraroga Chikitsa, but he had not given any description of the disorder or etc. etiology.

4. In Vaidya Manorama book written by Vaidyavara Shri Kalidasa had mentioned only the Shaiyyamutra Chikitsa in the Mutrakricchra Prameha Somaroga Adhikaranam, Saptama Patalam.

MODERN REVIEW

Enuresis has been recognized as a problem since the time of Papyrus Ebers, dated 1550 BC. This was one among few medical texts of the time and the mere mention of NE (Nocturnal enuresis) gave some merit to its problematic nature. Treatments advocated since then include use of various portions from animals, organs or plants, for example some remedies included placing a comb from a hen in tepid water and giving it to the child to drink or putting testicles from a hare into a glass of wine and having the child to drink it. Others tried drying the comb of a cock and scattering it over the enuretics's bed. Few include the urine of spaded swine, burning leaves between the legs (Okinawa), a rectal suppository of strychnine and sheep fat, cauterization of urinary meatus with silver nitrate to make micturition painful, repeated cauterization of prostatic urethra by silver nitrate through a catheter, stinging nettles applied to the penis, an inflated bag in vagina, collodion poured into the prepuce to seal it, galvanic stimulation to the urethral orifice, a toad tied to the penis so that when the child passes urine, the toad croaks and awakens the child (Nigeria) or a clamp applied.

In 1545, Thomas Phaer in his book of children wrote a section of Pyssying in the Bedde, recommending the trachea of cock or the claw of the goat for treatment.

In 1830, Nye suggested that one should attach one pole of an electric battery to a moist sponge fastened between the shoulders of patient and other to a dry sponge placed over the urinary meatus. While the sponge is dry, no electricity will pass and patients sleep is not disturbed at the moment the sponge is moistened by urination, it becomes a conductor of electricity. Hence, circuit is completed through the body and the patient is aroused. The repeated incidences like that are sufficient for an enuretic child and he gets cured. In the mid 1800's another treatment tried was to induce blisters on the child's sacrum (Glicklich, 1951).

In a 328 page symposium edited by Kolvin Mac Keith and Meadow the following three mechanisms relevant to the acquisition of sphincter control were discussed – maturation, learning and conditioning. The conclusions are as follows –

- **Maturation:** The mechanism of sphincter control is a complex one and must depend on the maturation of the nervous system i.e. delayed myelination. Secondly, there is a higher incidence of enuresis in both of uniovular twins than in both of binovular twins – evidence supporting a genetic factor.
- **Learning:** Children learn to control the bladder partially by imitation and partially by instruction and training.

- **Conditioning:** The baby becomes conditioned to empty the bladder when his buttocks feel the rim of the pottie. Psychological disturbances such as unhappiness or punishment for not using the pottie etc. are more likely to cause a relapse of control and ultimate result is enuresis or encopresis.

Martin Roth in opening a symposium on enuresis remarked that the problem is associated with a poor home, domestic frictions and delinquency in the family.

Miller in writing about the findings in the Newcastle, 1000 family survey wrote that the “social correlations” were such that it is reasonable to think that most enuresis occurs in a child with a slow pattern of maturation when that child is in a family where he does not receive sufficient care to acquire proper conditioning.

In his study Werry has opined the causes of enuresis. “The most common cause was the environmental variables likely to provoke a high level of anxiety in the child, such as hospitalization, separation from the mother or other emotionally traumatic incidents.”

Smith has reviewed the organic causes of enuresis. These are – ectopic ureter opening into the urethra or between the urethral and vaginal orifices, obstruction of the urethra in the boy, diverticulums of the anterior urethra, Spina-bifida with Meningocele, Sacral-Agenesis, Sacral-Lipoma, Ectopia Vesicae, Epispadiasis and a complication of circumcision.

Stansfeld found that a girl who wets the bed has a chance of urinary tract infection 1 in 20 and that 16% of children with a UTI present as enuresis. Treatment of the infection stops the enuresis in 30% cases.

In 1927, Friedall described using psychic treatment by restricting fluids and injecting sterile water along with positive reassurance that this treatment will work. His findings demonstrated an 87% success rate and those children who did not respond were found to have low urine specific gravity at night (Friedall, 1927). This monitoring of urine concentration holds significant merit with regards to common treatment modalities used today. Punishment and public humiliation were also historically very common. Unfortunately, parents still punish their children for wetting the bed.

W. Borgard (1942) attempted to distinguish enuresis from bladder weakness of physical origin and referred to Frankl Hochwart's (1906) definition of this syndrome as involuntary voiding of urine, usually during the night but also during the day, in the absence of organic lesions of the central nervous system or uro-genital system.

DISCUSSION

Kriya Shaareera of Mutravaha Srotas

According to Bhavamishra and Sharangadhara the Sara-Bhaga of digested food is known as the Rasa and the

Sara-Rahitha Bhaga (liquid) that goes to Basti is called Drava-Mala.

The Mutra Nirmana Prakriya is completed in three stages.

1. Dravamala Avastha
2. Sakleda Avastha
3. Mutra Avastha

1. **Drava Mala Avastha:** This is an initial stage. The Prasad-Rahitha Dravamsha absorbed from the Pakvashaya after the digestion of the food is known as the Dravamala. The digested food gets assimilated and undigested food material bifurcates into Ghanabhaga and Udakabhaga. This Udakabhaga is Upadana of Mutra. According to Sushruta the Pakvashaya does the absorption of Dravamsha from Ahara Kitta with the help of Vayu. Thus the first stage of Mutra Nirmana Prakriya is completed here i.e. absorption of Mutra Upadana i.e. Dravamala. This also establishes that Pakvashaya is indirectly related to the Mutra formation.
2. **Sakleda Avastha:** The Dravamala absorbed from the Pakvashaya is circulated throughout the body along with Sara Rasa. They perform the functions of Poshana, Tarpana and Vardhana of various Dhatus and Malas.

The Kriya of Abhivahana, Pachana, Grahana and Visarjana are performed in all the Srotamsi. According to the quotation 'Paripakvashaya Dhatvaha Mala' the Paripakva Dhatus are converted into the Malas. These Malas are again brought back in to the Siras from the Srotas and circulated in the body. The Drava Dravya which contains the Drava Mala and Dhatu Mala formed by Pachana Kriya in various Srotas is in dissolved form and is known as the Kleda. As the Malas are dissolved in Kleda in this Avastha, it is known as the Sakleda Avastha. The circulating fluid from which the Mutra is formed is said to be of 10 Anjali.

3. **Mutra Avastha:** The Upadana-Bhuta Dravya in the Dravamala remains in this Avastha till the Vivechana Karma is done by the Vrikka.

After the Kriya of Vivechana, Munchana, etc. the separated part is termed as the Mutra. This is the third stage or the Mutra Avastha. Although this stage is not very well described in ancient texts, Acharya Gananath Sen has elaborated it. Hemadri in his commentary on Ashtanga-Hridaya quotes on (Mutrasya Kleda Vahana); according to him Kleda Vahanam means Kledasya Bahirgamanam (Kleda is excretory part of Sakleda Drava Dravya). Thus the Mala brought to the Vrikkas by the Vrikkiya Dhamanis are excreted out of the body. This Kriya along with the Vivechana is performed in the Mutra Nirmapaka Yantra.

Role of Mana, Nidra and Sadhaka pitta in the pathogenesis of disease Shaiyyamutra

- ✚ After reviewing centers for controlling emotions, sleep mechanism in brain, modern medical

explanation gave some resemblance with Mana and Nidra told in classics. In this regard functions of reticular formation, hypothalamus and limbic system along with diencephalon, some part of thalamus including brain stem come in light.

- ✚ Hypothalamus is said as main controller of endocrine and vegetative functions along with emotional.
- ✚ In present study it was hypothesized that there may be some problem occurs in these area while sleep, as a result of daytime emotional conflicts.
- ✚ Sadhaka Pitta which plays main role in governing emotional behaviors may lies somewhere in these surrounding areas.
- ✚ As hypothalamus controls endocrine functions as well emotional behaviors, so it becomes clear that emotional conflicts affect endocrine mechanism, and by this one could understand role of Sadhaka Pitta in controlling endocrine system.
- ✚ In context of sleep mechanism, Reticular formation, hypothalamus and lower nuclei in brain stem show some resemblance with functions described for Mana.
- ✚ This way it could be seen that Mana, Sadhakapitta and Nidra are almost related to the similar structure or surroundings of brain and are closely associated with the functions of each other and also influence each other.
- ✚ Sadhaka pitta vitiation due to any cause may be the cause for stimulation of the areas of hypothalamus such as ventromedial and lateral area which may lead to increased general activity, rage, fear and punishment reactions.
- ✚ Recently for enuresis Urine volume, Bladder contraction and sleep are thought as main etiological factors. Hence role of Mana may be correlated with function of hypothalamus and its endocrine functions in Shaiyyamutra manifestation and Sadhaka Pitta could be the responsible factor for hormones and biochemicals in surrounding of limbic with hypothalamus.

ETYMOLOGY OF THE WORD SHAIYYAMUTRA

The greatness of Sanskrit language lies in its word formation. It is the beauty of the Sanskrit language to pin out any term with its original „datum“and the suffix used. The word Shaiyyamutra is formed from two words Shayya and Mutra.

शय्यामूत्र – शय्या + मूत्र

The meanings of both these words are clarified in the classical text and it is interesting to know that both these words were familiar to the Indian physicians from the time of Vedas as both of them find their references in Athravaveda The idiom Shayya originates from the dhatu शी आधारे meaning to support or to sustain with (व्यप्-टाप्) 1 (V. S. Apte) suffix added to it. Hence the term shayy indicates the place that supports during sleep or the bed.

SYNONYMS: Synonyms are the different words having same meaning. It has been a tradition of our Acharyas to show different aspect of a subject quoting their synonyms. By this one also come to know their proficiency in Sanskrit language. In a similar way, Shaiyyamutra has got different words meaning the same but used in different text

मूत्रमवशगतम् (वैद्यमनोरमा) निद्रामेह (धर्मदत्त वैद्य) निरंकशमूत्रता (P.S. RAWAT)

TYPES

In ancient text no types of the disease Shaiyyamutra are mentioned. Two types of vyadhis are mentioned in Ayurveda.

(1) Sharira (2) Manas

But none of our Acharyas has directly opined in which category the disease Shaiyyamutra is to be included. In 13th century Sharangdhara classified it as BALAROGA (the diseases of children). While later on in 19th century Govinddas Sen classified it as KSHUDRA ROGA in his text Bhaishajya Ratnavali.

Shaiyyamutra Samprapti

None of the authentic texts of Ayurveda had explained the Samprapti for Shaiyyamutra. Therefore, pathogenesis of Shaiyyamutra may be understood in terms of Vata-Vikara. Causative factors for Shaiyyamutra suppress the Chetana (consciousness) function of Prana Vata by the Avarana of Kapha and Tama, causing aggravation of Apana Vayu and its function in Mutratyaga. Thus child passes urine unknowingly in the bed.

Samprapti Ghataka

- ✚ Dosha: Apana Vayu, Kapha, Vriddhi, and Suppression of Prana Vayu
- ✚ Dushya: Ambu (Drava Mala), Mamsa
- ✚ Srotas: Mutravaha-Srotas, Manovaha Srotas (Sandnyavaha)
- ✚ Sroto Dushti: Sanga, Atipravritti
- ✚ Udbhavasthana: Pakvashaya, Mastishk
- ✚ Vyaktasthana: Basti
- ✚ Sancharasthana: Mutravaha Srotas
- ✚ Rogamarga: Marmasthi-Sandhigata
- ✚ Vyadhi-Svabhava: Cheerakari
- ✚ Sadhyasadyata: Kashtasad

Shaiyyamutra Chikitsa

Very limited references are available for the Chikitsa of Shaiyyamutra. Considering the available references the management of Shaiyyamutra may be described in 3 aspects.

- 1) Daivavyapashraya Chikitsa
- 2) Yuktivyapashraya Chikitsa
- 3) Satvavajaya Chikitsa

A. Daivavyapashraya Chikitsa: Chikitsa Manjari advice, to give Vishnupadodaka after washing the statue of Sri Balakrishna.

B. Yuktivyapashraya Chikitsa: Vaidya Govinda Das Sen advice the use of Bimbi-Mula Svarasa and Ahiphena.

Kalidasa advice to give Jati-Mula Kashaya.

For Malavarodhajanya Shaiyyamutra: Eranda Taila in the dose of 2-3 Bindu along with Dugdha as Anupana.

For Krimijanya Shaiyyamutra

✚ Krimikutararasa ½ - 1 Ratti

✚ Krimimudgara Rasa ½ - 1 Ratti

For Nadijanya Shaiyyamutra:

Amalaki churn – 1 gm along with Dugdha or Ashvagandha Churn – 1gm along with Dugdha is to be given.

Rasaushadhi: Vanga Bhasma, Trivanga Bhasma, BahuMutrantaka Rasa, Sheelajeeta can be administered according to the age of the patient.

Satvavajaya Chikitsa: Acharya Vangasena had mentioned following psychological therapy:

- ✚ The child is asked to kneel down on his knees, at the place where he used to pass urine and he is asked to hold the finger (s) of his feet by one hand and then eat cooked rice offered in a place with another hand.
- ✚ Bhaishajya Ratnavali also explained psychological treatment: The clay collected from the place of urine (of child) should be fried in a vessel and administered to the child with honey and Ghrita.

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