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Research Article

TAILABINDHU MUTRA PAREEKSHA: A PROGNOSTIC TOOL

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ABSTRACT

Investigations play a major role in diagnosis of any disease. In Ayurveda literature various examination methods are explained, even then we are completely depending on modern parameters due to lack of proper understanding and explanations available in our texts. Tailabindhu pareeksha is one among such modality explained by Acharyas of medieval period. Thus enlighten to its various aspects is essential. A comparative experimental clinical study on tailabindhu mutra pareeksha as mentioned in classics was conducted using mrutpatra and kachapatra on 35 patients with varied diagnosis. Various shapes, spreading pattern and movements of taila were observed as told in classics. A variation was observed in mrutpatra and kachapatra in movement and shape of taila on mutra, with mrutpatra giving a more accurate result shows a need in giving emphasis to the texture of the vessel used in tailabindhu mutra pareeksha.

Keywords: Tailabindhu mutra pareeksha, Specific gravity, Surface tension, Viscosity

INTRODUCTION

Tailabindhu pareeksha is a special modality for examination of urine. This technique was developed by Ayurvedic scholars of medieval period. Acharyas of ancient days were empowered with special sense (divya drusti), so the need for clinical examination and drug evaluation were of less significance. Knowledge conveyed through their texts was at brief with less explanation with reference to scientific description. Towards medieval period as the righteous actions (penance) reduced, the atindriya shakti also reduced. So the need for new examination techniques aroused to predict the diagnosis and prognosis of a disease. As a result compared to bruhatravee more pareekshas can be seen in laghutrayees. Ashtasthana pareeksha¹ contributed by Yogaratnakara, a detail description about the examination of tongue, pulse, urine, faeces and so on which convey the internal changes. Out of that mutra pareeksha was given much importance as urine is the end product of all the metabolic activities of body. Thus it can reflect the health status too. This might be the reason for describing about mutra pareeksha in detail by various texts like Basavarajeeya², Yogaratnakara³, Vangasena⁴. When it reached to kaliyuga, the intellect progressively reduced and changes in lifestyle had increased the occurrence of diseases. Contemporary sciences have developed a lot of objective way of laboratory and radiological examination for the diagnosis of the disease. But it is not economical and always there are fear of errors and accuracy. So there lies the need for us to enlighten the medical world with the contributions done by our Acharyas. To understand the variations on the basis of tridosha our own system of examination is needed. Hence it is need of the hour

to evaluate the practicality of tailabindhu mutra pareeksha according to classical text so as to make it relevant in the present era and successfully prove its importance.

Review of Literature

Prognosis of the disease is predicted by observing the spreading pattern of taila over surface of urine. Various movements and shape formations are described. Directions, speed, distribution, shape, sinking, floating all these are the parameters for tailabindhu pareeksha to assess sadyasadyata. Some of the instances are as follows. If oil drop spreads quickly and uniformly over the surface of urine, disease is said to be sadhya. If the oil does not spread and remains as a drop at centre it is said to be krichra sadhya⁵ and if it sinks to bottom said to be asadhya. If oil spreads in the direction of east, patient gets relief. Movement to south direction indicates the individual will suffer from jwara and recover after a period of time. Movement towards west or to north will attain arogya fast. Spread of oil towards north east, northwest, southeast and southwest dies soon. If oil spreads with shapes like umbrella, lotus, swan, house then it is considered as sadhya⁶. Shapes like tortoise, bird, snake, betel leaf, frog and lion as asadhya⁷.

Objectives

- To see the practicality of tailabindhu mutra pareeksha as explained in classics.
- Difference in observations and comparison of accuracy in evaluation of prognosis in mrutpatra and kachapatra.

MATERIALS AND METHODS

Before sunrise, midstream of first urination of the day was collected from 35 IPD patients with varied diagnosis like madhumeha, tamakashwasa, kamala, pakshaghata, amavatha, gridrasi. Directions were plotted using a compass and tailabindhu pareeksha was done under sunlight. Same quantity of urine sample was taken on petri dish and earthen vessel. Tila taila was dropped from a minimum height simultaneously on both dishes using trina. Changes in shape and movement of oil drop was observed and analysed accordingly with the background of Ayurvedic literature.

Observations

Various shapes and movements observed were in commensurate with the descriptions in classics. Taila remained as a bindhu at the surface of mutra in mrutpatra (Figure 1) and kachapatra (Figure 2) in all cases of upadrava yukta madhumeha which signifies kashta sadhyata. Chatra shape (Figure 3) was formed on mutra taken in mrutpatra of

patient with pakshaghata who had fast recovery in a week. Nagavalli dala (Figure 4), koorma (Figure 5) and sarpa (Figure 6) shapes which imply asadhyatwa were respectively seen on patients suffering from amavatha, pakshaghata and sosha with no much improvement. Movement of taila towards north-west direction (Figure 7) in mrutpatra was seen in case of a patient suffering from hridroga along with shwasa admitted in ICU and who was not responding to treatment. Movement of taila in south-west direction (Figure 8) in kachapatra which implies asadhyata according to classics was seen in case of a patient suffering from gridrasi who was recovering. A variation was observed in results by changing the vessel, which proves that texture of the vessel also plays a vital role. Based on the change in shape and movement shown by mrutpatra and kachapatra and comparing it with actual prognosis (Graph 1) seen in patient, the observations attained in mrutpatra showed more accuracy than kachapatra (Graph 2).

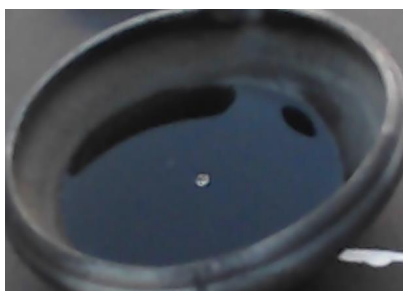


Figure 1: bindhu formation in mrutpatra



Figure 2: Bindhu formation in kachapatra

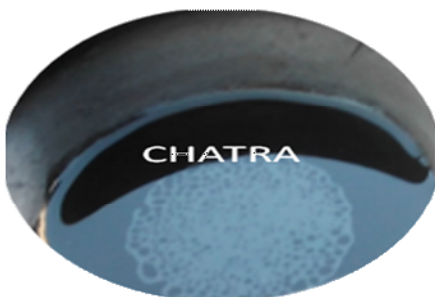


Figure 3: Chatra formation in mrutpatra



Figure 4: Nagavalli dala formation in mrutpatra



Figure 5: Koorma formation in mrutpatra



Figure 6: Sarpa formation in mrutpatra



Figure 7: North-west movement of taila in mrutpatra

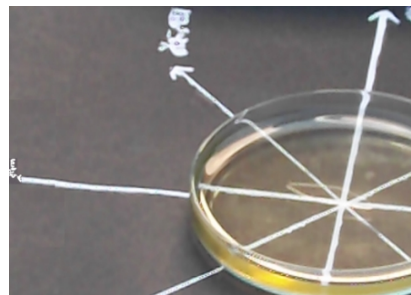
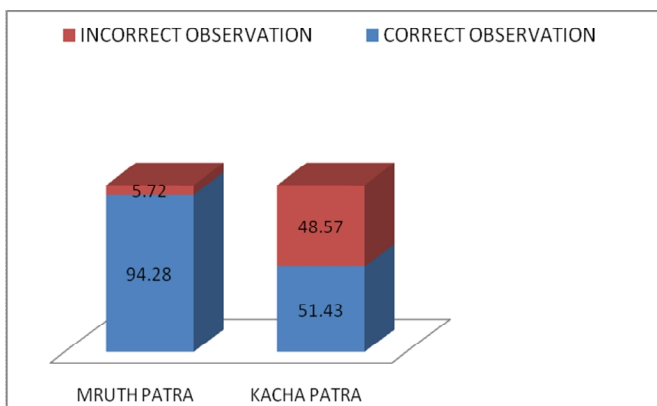
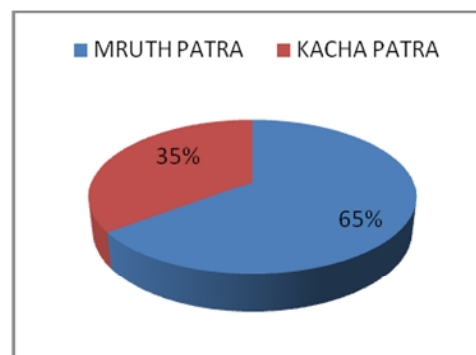


Figure 8: South-west movement of taila in kachapatra



Graph 1: Comparative chart



Graph 2: Accuracy of prognosis chart

DISCUSSION

Variations of taila in mutra may be due to the change in constituents present in each urine sample. Hypothesis made in order to explain the basis of procedure and reason for taila to show such variations in mutra are as follows.

Selection of madhya dhara of first passed urine

First passed urine sample in empty stomach is collected as this urine will be concentrated. Diluted urine due to fluid consumption tends to give a false picture of patients health. Madhya dhara or mid stream is preferred as it will not be contaminated with discharges or other particles in the passage.

Time interval

Much gap should not be given between time of collection and examination as it causes deterioration of chemical and cellular components like decrease in glucose level due to bacterial growth, lysis of red blood cells, decomposition of casts, alkalinity increases as conversion of urea to ammonia takes place due to action of bacteria⁸. The examination requires adequate light, so pareeksha is done after sunrise.

Selection of trina

As dropper or micropipettes were not available during ancient time, trina was selected as it was commonly available and instillation in the form of drop is also possible.

Selection of taila

The significance of using taila in tailabindhu mutra pareeksha can be explained scientifically, as density of taila is lesser⁹ than urine which has a composition of 93-97 % of water and the remaining with other constituents like inorganic and

organic compounds and dissolved ions. Further there is an interface tension between the dissimilar liquids¹⁰ and since they are non polar molecules¹¹ the decrease in miscibility will increase the interface thickness. This will help the taila to produce various changes on the surface of urine.

Based on spreading nature of oil

Specific gravity of urine is used to evaluate the concentrating and excretory power of the kidney¹². Renal disease tends to diminish the concentrating capability of the kidney. As a result renal failure will be associated with urine of low specific gravity¹³. At this stage there is a chance of taila to sink in urine. The specific gravity of urine is influenced by the number of molecules in urine, as well as their molecular weight and size; therefore it only approximates solute concentration. Presence of protein in urine increases its specific gravity¹⁴ hence oil will remain at surface of urine. The major solutes in normal urine at maximal concentrations did not cause any significant change in surface tension suggesting that these solutes play little part in determining surface activity of urine¹⁵. Substances which lower the surface tension become concentrated in the surface layer. Presence of protein decreases the surface tension¹⁶ which permits stability of minute droplets of oil in the bulk of urine.

Based on spreading shape of oil

The main determinant of urine surface tension is bile salt concentration¹⁵. Presence of bile salts in urine will lower the surface tension¹⁶. Further bile is an emulsifying agent¹⁷ which helps insoluble fat to slowly mix with water till it becomes a homogenous mixture. This will permit oil to produce different shapes on the surface of urine.

Based on movement of oil

Reason for the appearance of movement can be better explained by understanding the viscosity and inertia between fluids¹⁸. As the fluid becomes more viscous the sluggish movement increases. But the significance of north-west, south-west direction is difficult to explain with modern parameters, showing incalculable knowledge of our Acharyas.

CONCLUSION

Various shapes, spreading pattern and movements were observed as told in classics. On comparison of observations mrutpatra has given maximum matching results in prognosis than kachapatra. Study was done out of interest about the findings told in classics and also mentioning of various material as medium for doing tailabindhu mutra pareeksha. Selections of patients were done randomly and study was conducted on a small sample size. Hence this study can be taken as a basic step to explore various strategies in mutra pareeksha as per Ayurveda.

REFERENCES

1. Bhisagratna Brahmasankar Sastri.(ed). Yogaratnakara with Vidyotini commentary of Vaidya Lakshmipati Sastri, 7thed. Varanasi: Chaukhambha Sanskrit Sansthan; 1999. p. 5.
2. Acharya Shri Basavaraj. Basavarajeeyam with Hindi commentary of Prof Pandey Jhanendra, Varanasi: Chaukhambha Krishnadas Academy; 2010. p. 118-22.
3. Bhisagratna Brahmasankar Sastri. (ed). Yogaratnakara with Vidyotini commentary of Vaidya Lakshmipati Sastri, 7thed. Varanasi: Chaukhambha Sanskrit Sansthan; 1999. p. 10-2.
4. Vangasena,Vangasena Samhita with Hari Hindi commentary of Pd Harihara Prasad Tripathi,Varanasi: Chaukamba Sanskrit series office, Arishtadhikara; 2009. p. 997-9.
5. Acharya Shri Basavaraj. Basavarajeeyam with Hindi commentary of Prof Pandey Jhanendra, Varanasi: Chaukhambha Krishnadas Academy; 2010. p. 118-9.
6. Bhisagratna Brahmasankar Sastri. (ed). Yogaratnakara with Vidyotini commentary of Vaidya Lakshmipati Sastri, 7thed. Varanasi: Chaukhambha Sanskrit Sansthan; 1999. p. 10-1.
7. Acharya Shri Basavaraj. Basavarajeeyam with Hindi commentary of Prof Pandey Jhanendra, Varanasi: Chaukhambha Krishnadas Academy; 2010. p. 120.
8. Godkar Praful B. Textbook of Medical Laboratory Technology, Mumbai: Bhalani Publishing House, Routine Examination of Body Fluids and Faeces; 2001. p. 539.
9. middleschoolchemistry.com. American Chemical Society; 2013.
10. thefreedictionary.com; 2013.
11. classzone.com; 2013.
12. Godkar Praful B. Textbook of Medical Laboratory Technology, Mumbai: Bhalani Publishing House, Routine Examination of Body Fluids and Faeces; 2001. p. 541.
13. en.wikipedia.org; 2013.
14. ahdc.vet.cornell.edu. Cornell University; 2013.
15. edoc.hu-berlin.de. Berlin: J. Clin. Chem. Clin. Biochem 2013; 26: 190.
16. books.google.co.in. Ramakrishnan S, Textbook of Medical Biochemistry, Physicochemical Aspects of Bio chemistry; 2004. p. 661.
17. books.google.co.in. Stephen Stoker H, General Organic And Biological Chemistry, Messenger Lipids: Steroid Hormones; 2010. p. 641.
18. ioscpceedings.org. Fay James A, Physical Processes In The Spread of Oil on A Water Surface; 2013.

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