Research Article

REFERENCE VALUE OF TAILA BINDU PARIKSHA IN HEALTHY INDIVIDUALS

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ABSTRACT

Taila bindu pariksha, a method of urine examination for prognosis of diseases has been described in of Ayurvedic texts of medieval period. In this test oil is dropped on urine surface and on basis of shape, direction and spread time of oil drop prognosis of disease is predicted. Details of observations of this test in patients have been mentioned in texts but reference range in normal individuals has not been mentioned. Present study was carried out for outlining the findings of this test in normal healthy individuals so that we can set reference range. For this standardized procedure of Taila bindu pariksha was followed and observations were recorded in form of video clips. Following this standardized procedure Taila bindu pariksha was performed in 30 apparently healthy individuals. In all cases shape and direction was found in accordance with textual descriptions of easily curable diseases. Mean spread time was 25.1 sec and split time was 84.57 sec.

Keywords: Taila bindu pariksha, shape, direction, spread time

INTRODUCTION

Ayurveda gives emphasis on diagnosis of diseases before starting treatment.[1] Diagnosis of disease is mainly based on clinical features supported by clinical examination and ancillary investigations. For the diagnosis of various aspects of disease and diseased person, several methods have been described in Ayurvedic texts but these examinations are mainly based on clinical examination. Examination based on laboratory investigations is rather a late development pertaining to medieval period. Mutra Pariksha and Purisha Pariksha were the main laboratory investigative tools in the past and were included under Astasthana Pariksha.[2] A specialized technique of urine examination Taila Bindu Pariksha is described in texts of medieval period[3,4] for prognosis of diseases which was very popular till seventeenth century. In this test, drop of oil is dropped on mid stream urine collected in a vessel. By spread of oil drop on urine prognosis of disease can be predicted. In texts observations indicative of good and poor prognosis are mentioned which have also been confirmed by certain researches[5] but observations related to normal individuals are not mentioned in Ayurvedic texts. To establish certain test on scientific ground it is necessary that we have normal as well as abnormal range of that test. The present study is an attempt to find out the pattern of Taila bindu pariksha in normal healthy individuals. For this behaviour of oil over urine was noted.

MATERIAL AND METHODS

For this study procedure standardized by Kar *et al*. was used.[6] In this standardized procedure 12 µl of sesame oil is dropped over urine (morning mid-stream sample) collected in glass petri dish of 8 inch diameter. All observations are recorded in the form of video clips. Still photographs are taken from the clips afterwards for the assessment of shape and direction of oil spread. Following the standardized procedure Taila bindu pariksha was performed in 30 healthy volunteers. Apparently healthy individuals of either sex between 20 to 30 yrs of age group with no drug history at least for 1 week and those having similar diet pattern in the earlier day were taken for present study.

Parameters examined in urine

Froth, Colour, Reaction, Shape of oil after spread, Direction of spread, Spread Time (Time taken by oil drop to reach its final shape) and Spilt time (time in which is oil film is splitted which is interpreted by sieving of the oil surface) was observed. Spread time and split time was noted by the help of digital clock kept near the Petri dish.

Observation and Results

Observations on physical characteristics of urine of apparently healthy volunteers

Colour: In the present study, 63.33 % of samples were of pale yellow colour, 30.00 % were yellow and 6.66 % were colourless which can be considered as white colour (shveta varna) as described in Ayurvedic texts. (Table 1)

Froth: Froth was present in 26.67 % of the total sample. (Table 2)

Reaction: All samples were acidic in reaction
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Observations on Taila bindu pariksha in urine of apparently healthy volunteers

Shape

In 60.00 % of the samples the spread was circular (Figure 2 and 3), almost circular spread in 20.00 % sample (Figure 4 and 5) and other shape (Shape like chhatra (Figure 6), kamal, or any shape other than circular) in 20.00 %. (See Figure 1-4, Table 3)
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Direction

90.00 % of the sample had uniform spread in all directions whereas 6.67 % of sample spread had directed towards west and 3.33 % towards east. (Table 4)

Spread time

In 26.67 % of sample, the spread occurred within 10 sec, in 26.67 % in range of 21 to 30 sec., in 20.00 % in range of 31 to 40 sec, in 16.67 % in range of 41 to 50 sec and in 10.00 % cases, it was within 11 to 20 sec. The mean spread time of 30 samples was 25.1 sec. (Table 5)

Split time

In 43.33 % of sample split time was found between 1 to 2 min., followed by 33.33 % of sample in which split occurred within 60 sec, in 20.00 % of sample split time range was from 121 to 180 sec. 3.33 % of sample had the split time above 3 min. The mean split time of sample (n = 30) was 84.57 sec. (Table 6)

Table 1: Distribution of Colour in Urine of Apparently Healthy Volunteers

Colour	Number	Percentage %
Pale yellow	19	63.33 %
Yellow	9	30.00 %
White	2	6.66 %

Table 2: Distribution of Froth in Urine of Apparently Healthy Volunteers

Froth	Number	Percentage
With froth	8	26.67 %
Without froth	22	73.33 %

Table 3: Distribution of Shape

Shape	Number of cases	Percentage
Circular	18	60.00 %
Almost circular	6	20.00 %
Other	6	20.00 %

Table 4: Distribution of Direction

Direction	Number of cases	Percentage
Uniform in all direction	27	90.00 %
West	2	6.67 %
East	1	3.33 %

Table 5: Distribution of Spread Time

Spread time	Number of cases	Percentage
Up to 10 sec	8	26.67 %
From 11 to 20 sec	3	10.00 %
From 21 to 30 sec	8	26.67 %
From 31 to 40 sec	6	20.00 %
From 41 to 50 sec	5	16.67 %

Table 6: Distribution of Split Time

Split time	Number of cases	Percentage
Up to 60 sec	10	33.33 %
From 61 to 120 sec	13	43.33 %
From 121 to 180 sec	6	20.00 %
From 181 to 240 sec	1	3.33 %

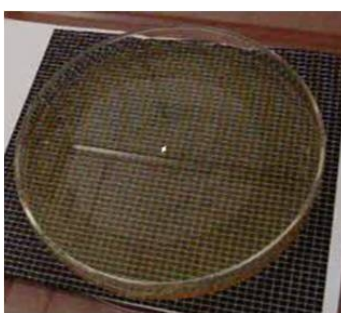**Figure 1: Circular Shape in Yellow Urine**
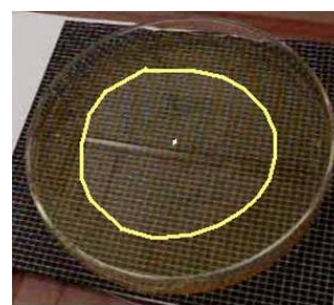

Figure 2: Circular Shape
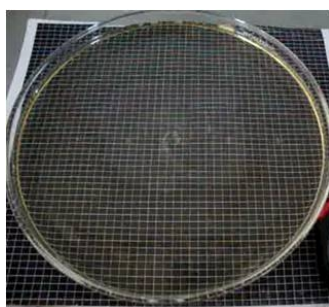

Figure 3: Sketched Picture of Circular Shape

Figure 4: Almost Circular Shape
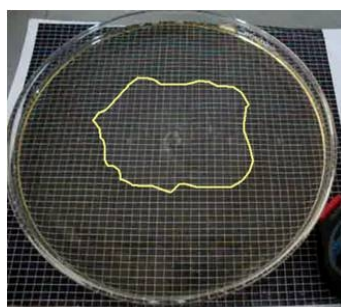
Figure 5: Sketched Picture of Almost Circular Shape
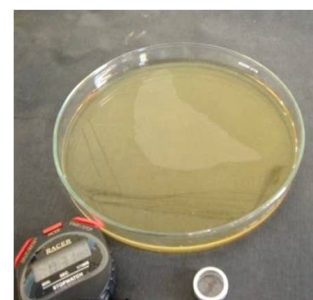

Figure 6: Chhatrakar (Semi Circular) Shape

DISCUSSION

Selection of cases

The difference in constituents of urine depends upon the dietary metabolites and other minor constituents which are excreted through urine.[7] presuming the interference of the dietary metabolites with the behaviour of oil drop in urine, the apparently healthy volunteers who stayed in the hostel were selected as the hostellers have the fixed menu in the diet.

Colour

In this study, it was found that maximum number of cases had normal urine colour. 30.00 % of urine sample were slight more yellow in colour. These may be regarded as samples having pitta predominance (Figure 1). 6.66 % cases were white colour and this may be attributed to have kapha predominance. This predominance was confirmed by their previous day activities which were supposed to give the respective dosha predominance.

Froth

According to Ayurvedic principles, froth is characteristic of vata so cases with froth were considered as cases with vata predominance. History of those cases revealed that most of them had either vata vardhaka ahara or vihara (e.g. ratri jagarana) in the previous day.

Shape and Direction

Maximum cases in the study had circular or almost circular shape and it can be preliminary regarded as common observation in healthy individuals. Other cases were also observed to lay in the category of shapes indicating good prognosis. Thus it can be said that good prognosis shapes mentioned for good prognosis are also found in healthy condition. Direction of oil drop was also found similar to direction mentioned for good prognosis.

Spread time and Split time

As no earlier study has been done to evaluate findings of Taila bindu Pariksha in healthy individuals the observations of this study can provide preliminary reference range for spread and split time. In this study spread time was found to be within one minute in all samples. Split time from 30 sec to 4 minute can be considered as normal in healthy individuals when done in set of parameters which were finalized for this study.

CONCLUSION

It can be concluded from this study that normal range of shape and direction of oil drop in Taila bindu pariksha when performed in healthy individuals are same that of observations mentioned in texts for good prognosis. Spread time of oil drop should be within 1 minute and split time below 4 minute can be considered as range for healthy by above mentioned procedure. A preliminary outline of observations of Taila bindu pariksha has been set by this study but before giving concluding remarks that there is need of performing test in large number of cases.

REFERENCES

1. Agnivesha, Charaka Samhita redacted by Charaka and Dridhabala, Ayurvedadipika commentary of Chakrapanidatta, edited by Trikamji Yadavji, Varanasi, Chaukhambha Subharati Prakshan, Sutra Sthana 20/20, 2008, p. 115.
2. Anonymous.Yogaratnakara, Vidya Lakshmipati Shastri Vidyotini Hindi commentary, edited by Brahma Shankar Shastri, 7th ed. Varanasi: Chaukambha Sanskrit Bhavan, Purva khanda; 1993. p. 10.
3. Vangasena. Vangasena Samhita, edited by Nirmal, 1st ed. Varanasi: Chaukhambha Sanskrit Series; 98th chapter; 2009. p. 997.
4. Vasavaraja. Vasavarajiyam, edited by Govardhan Sharma, Ist edition, Gorakshana yantralaya Mudritava Prakashitama, Tritiya Prakarana; 1930. p. 69-71.
5. Sangu PK, Kumar VM, Shekhar MS, Chagam MK, Goli PP, Tirupati PK. A study on Tailabindu pariksha – An ancient Ayurvedic method of urine examination as a diagnostic and prognostic tool. AYU (An International Quarterly Journal of Research in Ayurveda) 2011; 32(1): 76-81. http://dx.doi.org/ 10.4103/0974-8520.85735
6. Kar AC, Sharma R, Panda BK, Singh VP. A study on the method of Taila Bindu Pariksha (oil drop test). AYU (An International Quarterly Journal of Research in Ayurveda) 2012; 33(3): 396-401. http://dx.doi.org/10.4103/0974-8520.108851
7. Siener R, Hesse A. The effect of different diets on urine composition and the risk of calcium oxalate crystallisation in healthy subjects, Europian Urology 2002; 42(3): 289-296. http://dx.doi.org/10.1016/S0302-2838(02)00316-0