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### Evaluation of Prognosis of *Madhumeha* by *Tail Bindu Mutra Pareeksha*: A Case Study

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#### ABSTRACT

Prognosis is an important aspect of diagnosis and treatment. Here we report a case study of a male of 65 years suffering from Type 2 DM since last 16 years. In the present case study, fasting blood sugar level of patient was compared with the findings of *tail bindu mutra pareeksha*. Patient was advised to bring the morning first midstream urine to perform the *tail bindu mutra pareeksha* simultaneously FBS level was also checked. It was observed that when oil drop spread immediately on the urine surface FBS level was 101mg/dl. On next visit, the patient was asked to bring the same morning first midstream urine and *tail bindu mutra pareeksha* was performed as before but at this time the oil drop did not spread and it remained as pearl shaped; FBS was 202 mg/dl at that day. On comparison, these findings of *tail bindu mutra pareeksha* were found to be relevant. As according to *Yogratnakar*, if oil drop spreads on the urine surface, then disease is *sadhya* (curable) and if it does not spread, then the disease is *kashta-sadhya* (difficult to treat). Hence, *Tail bindu mutra pareeksha* can be used to assess prognosis and to plan the suitable treatment.

#### KEYWORDS

*Madhumeha, Prognosis, Tail Bindu Mutra Pareeksha*



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## INTRODUCTION

*Madhumeha* is a disease in which frequency of urination increases<sup>1</sup> and urine possesses the property of *madhu* (honey) i.e., it contains sugar. On clinical manifestation, *madhumeha* can be correlated with diabetes mellitus which is the most common endocrinal disorder marked by high level of blood glucose resulting from insulin insufficiency mainly.

As per WHO, Diabetes mellitus is defined as a heterogenous metabolic disorder characterised by common feature of chronic hyperglycaemia with disturbance of carbohydrate, fat and protein metabolism. DM is expected to continue as a major health problem owing to its serious complications, especially end stage renal diseases, IHD, gangrene of the lower extremities and blindness in the adults<sup>2</sup>.

As *Madhumeha* is a global health problem alarming the world as a non-infectious pandemic, hence there is need to predict the prognosis of the disease. Few prognostic parameters are presently used for accessing the disease outcome. But, even the best prognostic models perform imperfectly. In case of DM, the only prognostic models available to know about the disease status and prognosis are biochemical investigations such as FBS, RBS, PPBS and HbA1c etc. But all these

methods are invasive and need blood. But, person in ill health and specially the older patients find it frustrating and painful to give blood again and again. In such cases, non-invasive, easily available and cost effective techniques are required. *Tail bindu mutra pareeksha* described under *Astavidha pareeksha*<sup>3</sup> is diagnostic as well as prognostic in nature.

## AIMS AND OBJECTIVES

1. To study the aspects of *tail bindu mutra pareeksha*
2. To find out any relevant contribution of *tail bindu mutra pareeksha* in evaluating prognosis of *Madhumeha* (DM).

## MATERIALS AND METHODS

The present study was carried out in the department of *Rog Nidāna* and Research and DMC Laboratory, R.G.G.P.G. Ayu. College & Hospital, Paprola, HP.

1. A patient suffering from Type 2 DM since past 16 years came to OPD of *Rog Nidana* for regular check-up. (OPD no. 160111095049280)
2. Patient was having no fresh complaints.
3. The patient was assessed on the basis of his clinical signs, symptoms and past history.
4. Patient was advised to come to hospital empty stomach next day for biochemical



investigations. He was also asked to bring the morning first midstream urine to perform the *tail bindu mutra pareeksha*.

**Tail Bindu Mutra Pareeksha:**

*Tail bindu mutra pareeksha* was performed by dropping a drop of *til tail* over the surface of urine and findings were compared with the biochemical findings of blood.

**Equipment used:** Dry and clean glass petri dish of diameter 6 inch, micropipette, (sesame) *til tail*, compass.

**Method of collection of urine:** Patient was asked to collect the first morning midstream urine in a urine container.

**Procedure of tail bindu mutra pareeksha:**

Urine was taken in a petri dish and was kept on stable surface. When the surface of urine become stable and quite, then a drop of *til taila* was dropped out on the surface of urine with the help of a micropipette. The changes in the oil drop were carefully observed specially spread and formation of different types of shapes. The following points were noted:

- i. Time/rate of spread- Immediate spread/late spread/sinking down of oil drop
- ii. Direction of spread- East(*Purva*)/West(*Pashchim*)/North(*Uttara*)/South(*Dakshin*)/ North-east(*Ishana*)/North-west(*Vayavya*)/South-west(*Nairutta*)/South-east(*Agneya*)

- iii. Shape and pattern of oil on urine surface.

An attempt has been made by *Dr. Reetu Sharma et al*, 2009 BHU, to standardize the variables of *Taila Bindu Pariksha*<sup>4</sup>.

**Time/rate of spread:**

*Yogaratanakara* have mentioned that<sup>5</sup>

1. If oil spreads quickly over the surface of urine, the disease is *Sadhya* (curable or manageable).
2. If the oil does not spread it is considered as *Kashta-sadhya* or difficult to treat.
3. If the dropped oil sinks to bottom of the vessel, then it is regarded as *Asadhya* or incurable.

**Direction of Spread<sup>6</sup>:**

1. If the oil spreads in the direction of east (*purva*), the patient gets relief.
2. If the oil spreads in the direction of south (*dakshin*), the individual will suffer from *jwara* (fever) and gradually recovers.
3. If the oil spreads in the north (*uttara*), the patient will definitely be cured and will become healthy.
4. If the oil spreads towards the west (*pashchim*), the patient might be attaining *Sukha* and *Arogya* i.e. happy and healthy.
5. If the oil spreads towards the *Ishanya* (Northeast), the patient is expected to die in a month's time.



6. If the oil spreads into *Agneya* (Southeast) or *Nairutya* (Southwest) directions, the patient is bound to die.

7. If the oil spreads to *Vayavya* (Northwest) direction, patient is going to die anyway.

### Shape of oil drop<sup>7</sup>:

1. **Table 1** Comparison of Tail Bindu Pariksha Finding and Laboratory Findings

Laboratory investigation		Rate of spread	Shape of oil drop	Direction of oil drop
FBS=101mg/dl	No glucosuria	Immediate	-	Uniform
FBS=202 mg/dl	Glucosuria	Did not spread	Circular	Uniform

**Shapes showing good prognosis (*sadhya* conditions):** *Hansa, Karanda, Tadaga, Kamala, Gaja, Chamara, Chhatra, Torana, Harmya, Parvata, Vriksha and Matsya.*

**Shapes showing grave prognosis (*asadhya* conditions):** *Hala, Kurma, Sairibha, Shiro Vihina Nara, Gatra Khanda, Shastra, Khadga, Mushala, Pattisha, Shara, Laguda, Trichatuspatha, Khara, Ushtra and Vrishchika.*

## RESULTS

### Demographic profile of the patient:

Patient was Hindu male of age 65 years. Patient was taking both the allopathic and ayurvedic treatment. Physical findings of patient were normal. Patient was of *vata-Kaphaja prakriti*.

2. On first visit, Patient was advised to come to hospital empty stomach next day

1. In *vata* predominance – *Taila bindu* takes a snake (*sarpa*) like image in the urine

2. In *pitta* predominance – *Taila bindu* becomes *chhatrakara*.

3. In *Kapha* predominance – The oil drop spreads like a pearl (*mukta*).

for biochemical investigations. He was also asked to bring the morning first midstream urine in a urine container to perform the *tail bindu mutra pareeksha*.

3. Next day the urine brought by the patient was kept in a petri-dish and *tail bindu mutra pareeksha* was performed when surface of urine became stable. FBS level was also checked at same day.

4. FBS level was 101 mg/dl and oil drop spread uniformly on urine surface in *tail bindu mutra pareeksha*.

5. On next visit, patient was advised to do the same. This time the FBS level was 202 mg/dl and oil drop did not spread on urine surface.

6. On comparing the value of FBS with respective result of *tail bindu mutra pareeksha*, a correlation was found between these findings.



## DISSCUSSION

Under the *taila bindu Pariksha*, shape, direction and time of spread of *taila bindu* were observed. From the observation it was observed that in condition of increased level of FBS, the shape and rate of spread of *tail bindu* was significantly affected but not the direction.

- When sugar level was under control i.e. 101 mg/dl, then the oil drop spread in uniform direction over the urine surface indicating *sadhyata* (good prognosis)
- When sugar level was abnormally high i.e. 202 mg/dl, then the oil drop did not spread over the urine surface indicating *kashta-sadhyata* (bad prognosis) of disease.

In a study entitled “Assessment of Prognostic Aspects of *Prameha* (Diabetes Mellitus) by *Tail Bindu Pariksha*” conducted by Ekka Ranjita et al, 2013, BHU, it was observed that the shape would be more significant than the direction of the *Taila bindu* to assess the diabetic condition<sup>8</sup>.

## CONCLUSION

From the above observation, it can be concluded that the features of *kashta-sadhyata* (bad prognosis) of *Taila bindu mutra pariksha* were present in uncontrolled Diabetes. Especially the

shape and rate of spread of the *Taila bindu pariksha* seems to be more appropriate than direction of *Taila bindu* because the direction was uniform both the times. Hence, it can be concluded that *Taila Bindu Pariksha* has a valuable role in the assessment of prognosis of a disease.

But only with a single case study, all the features can't be assessed, so further work should be done on large number of samples with sufficient time and as a project work in all other diseases. Being a part of *Ayurveda*- Science of life, it is our responsibility to provide all the health related services to the mankind by using ancient scientific aspects. So, further more vigorous study should be carried out to establish prognostic aspect of *tail bindu mutra pareeksha* scientifically.



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