Review Article

www.ijrap.net

JIVHA PARIKSHA - ONE OF THE DIAGNOSTIC TOOLS IN AYURVEDA: A REVIEW

Misar (Wajpeyi) Sadhana *
Associate Professor, Kayachikitsa Department, MGAC & RC, Salod (H), Wardha, India

*Corresponding author
E-mail: sadhanamisar@gmail.com

ABSTRACT

Ayurveda emphasizes on the diagnosis of the disease. As main treatment principle of Ayurveda is nidanparivarjan and samprapti vighatana. Various methods of Rogi pariksha are described in Ayurveda, Jivha pariksha (Tongue Examination) is one of them. It is mentioned by Acharya Yogratnakar under Ashtavidha pariksha (eightfold examination). Other systems like Unani and Siddha, Chinese medicine, traditional Korean system as well as Greek physicians also described tongue examination. Tongue examination involves shape, colour, moisture, movement and the coating on the tongue. Jivha pariksha reveals our main constitution (normal prakruti), imbalance of doshas, state of agni (digestive fire) and koshtha (Annavaha strotas). According to Ayurveda Agnimandya (hypo functioning of digestive fire) is the root cause of all diseases. Saam jivha (Coated tongue) indicates a presence of ama (undigested food) in the digestive system. Thick coating indicates the progression of disease so jivha pariksha is very important in diagnosis as well as prognosis of various diseases. In routine practice tongue is examined directly after protrusion. There are always chances of subjective errors. Environmental factors such as light may also affect the findings. Recently, a need to develop supportive new scientific evidence for contemporary Ayurveda has emerged. Hence it is necessary to establish the objectivity and standardization of the said tool i.e. jivha pariksha. Number of tongue diagnosis systems (TDSs) has been developed in recent years which can be used in Tongue diagnosis.

Keywords: Jivha pariksha, Ashtavidha pariksha, Tongue diagnosis, Tongue diagnosis system, Traditional Chinese medicine.

INTRODUCTION

For proper treatment of any disease perfect diagnosis is a must. In ancient times there were no advanced tools or technologies to diagnose a disease as seen today. Acharyas developed some techniques through their in depth observations and insight. Ayurveda describes various methods of examination called "Rogi Pareeksha" like dwividha (two fold examination), trividha (three fold examination), ashtavidha pareekshas (eight fold examination)[1,2].

Jivha pariksha is mentioned by Acharya Yogratnakar under Ashtavidha pariksha[3,4]. Other systems like Unani and Siddha, Chinese medicine, traditional Korean system as well as Greek physicians also described tongue examination. Tongue examination is easy, convenient and non invasive method of diagnosis. The tongue is the only visible part of the digestive tract and therefore, considered as the mirror that reflects the conditions of the body's internal organs, particularly the organs of digestion and metabolism. It can prove to be a key factor in determining many conditions and the overall health of a person[5].

Tongue should be observed for its shape, colour, moisture, movement and the coating over it. Jivha pariksha reveals our main constitution (normal prakruti)[6], imbalance of doshaja, state of agni (digestive fire) and koshtha (Annavaha strotas). According to Ayurveda Agnimandya (hypo functioning of digestive fire) is the root cause of all diseases. Saam jivha (Coated) indicates a presence of ama (undigested food) in the digestive system. The state of the Agni is thus assessed by the condition of the tongue. Thick coating points to the progression of disease. So jivha pariksha has diagnostic and prognostic values as well[7,8,9.]

Jivha pariksha helps to assess the imbalance of doshaja in the body. Vata imbalance is indicated by a blackish or brown and rough tongue bearing cracks while pitta imbalance is indicated by red, yellow or blue tongue. A Kapha imbalance is manifested by a white and slimy tongue. Black tongue with thorny eruptions indicates aggravation of all three doshas[10].

Production of Ama (toxins) in the body is the cause of coated tongue. Coating in middle part of the tongue indicates the presence of ama (toxins) in the stomach and in the small intestine. Coating in posterior part of the tongue indicates presence of ama (toxins) in the large intestine.

Examination of tongue can be done in sitting or supine position. When patient is protruding the tongue one should ensure that it is not overstretched. Tongue examination should be carried out in daylight. Avoid intake of food and oral drugs prior to tongue examination as it interferes with the diagnosis.

Usually the practitioner examines the tongue by asking the patient to protrude the tongue. So there is always a chance of difference of opinion as per the knowledge and experience of the examiner. Even the light may contribute to the difference of opinion. Available diagnostic criteria are not reliable to diagnose all type of disorders. To overcome these limitations, a number of tongue diagnosis systems (TDSs) have been developed in recent years. It involves number of components like image capturing and storage, color correction, tongue segmentation, and image analysis. The processes of image capturing and storage are hardware resources, while those of color correction and tongue segmentation are image-preprocessing steps in tongue diagnosis. Image analysis process comprises classification of the tongue according to selected diagnostic parameters[11-14].

The aim of this study is to explore the description of Jivha pariksha in different systems of medicine and to explore recent advances in it.

Data sources

Ayurvedic literatures as well as Research articles were searched through net surfing.
Many research studies have been conducted in various medical systems for standardization and objectivity of Tongue Diagnosis.

Sharma Rohit *et al* in his study stated that different areas of the tongue correspond to different organs of the body. Hence by correlating the location of the blemishes on the tongue, one can determine affected organs of the body. The front of tongue corresponds to the lungs, heart, chest and neck. The centre of tongue equates to the spleen, stomach, pancreas and liver. The back of the tongue corresponds to the intestines, colon and kidneys[15].

Vrinda Kurande *et al* conducted a study to assess the inter rater reliability of Ayurvedic pulse (nadi), tongue (jivha), and body constitution (prakriti). Fifteen registered experienced Ayurvedic doctors independently examined twenty healthy subjects. They assessed the degree of tongue coating. They obtained poor to moderate levels of inter rater reliability for pulse and tongue assessment. They concluded that in Ayurveda, the low level of reliability could be due to a lack of standardized tongue examination procedure. They suggested that standardization of diagnostic methods may improve the level of reliability[16].

Similar type of study was conducted by Minah Kim et al. In their study they reported that the TCM tongue inspection was not a reliable diagnostic method[17].

In conventional method of jivha pariksha subjective differences such as experience and knowledge of the examining person, the source of light can cause difference of opinion. Hence there is a need of standardization of the result. With this background newer research projects were carried out. This finally led to development of various types of tongue diagnosis systems.

Tongue diagnosis systems (TDSs) aims to standardize objective diagnostic results with the help of image acquisition and its quantitative analysis with the aid of computer application. These systems consist of hardware including cameras, light sources a Color Checker, software for color correction, segmentation of tongue region, and tongue classification. To improve the performance of TDSs, various types of TDSs have been developed. Hyper spectral imaging TDSs have been suggested to acquire more information than a two-dimensional (2D) image with visible light waves, as it allows collection of data from multiple bands. Three-dimensional (3D) imaging TDSs have been suggested to provide 3D geometry[18].

Ratchadaporn Kanawong et al in their paper **"Computer-aided tongue image diagnosis and analysis"** stated that it is a medical procedure which helps in interpretation of medical images. Their work focuses on computer-aided tongue image analysis. It helps to improve reliability and objectivity of diagnosis[19].

Dhanalakshmi Miryala *et al* in their paper **"Computer Aided Image Enhancement of Tongue for Diagnosis in Ayurvedic Medical Treatment"** proposed an application of computer aided digital image enhancement methods for processing the tongue image to highlight the true color and white coating, cracks,

pimples/buds etc, so that the practitioner can get more valuable information compared to direct visual examination of the tongue. The method mainly consists of two techniques first, color image filtering and enhancement for identifying the true nature of colors on different parts of the tongue and to bring out white coating; second, contrast enhancement and image sharpening in grey scale for highlighting the shape, cracks, buds and pimples. They formulated the software program to process the digital image of the tongue. The image data of 236 students were taken and processed it with the program they developed. Satisfactory results were obtained. The aim of their method is to help in reducing the complexity in tongue image understanding for the practitioner. The data of the experimental results revealed that this method produces significant useful result for the tongue diagnosis[20].

Min-Chun Hu in their study "Automatic Tongue Diagnosis Using a Smart Phone" proposed an automatic tongue diagnosis framework to analyze tongue images taken by smart phones. For accurate results they proposed a lighting condition estimation method based on the SVM classifier to predict the color correction matrix according to color difference of images taken with and without flashlight. In this paper, they discussed an architecture that allows a person to monitor his health by performing the tongue diagnosis on the smart phone[21].

Ini Ryu *et al* have developed "Tongue Dx: A tongue diagnosis system for personal health care on smartphone" which enable early diagnosis of some diseases without going to the hospital comes to be possible. According to them, tongue diagnosis on smart phone will get users new experience on health diagnosis[22].

CONCLUSION

Jivha pariksha is non invasive, easy and important in clinical examination to understand the overall health. To avoid the variations in diagnosis various Tongue diagnosis systems are developed. With this background we can go for the computer aided TDSs with the provision of necessary software. This will be of immense help in the diagnosis and ultimate treatment.

REFERENCES

1. Agnivesha. Rogabhishagjitiyam. In, Acharya Trikamji Jadavaji. Charaka Samhita (Charaka and Dridhabala with Chakrapani), Reprint. Varanasi, India: Chowkhamba Prakashan: 2007:pp. 274.
2. Byadgi P.S, Kumar Shailendra. View of Charaka on roga and rogi pariksha for the vyadhivinischaya (diagnosis of diseases). Int. J. Res. Ayurveda Pharm. 2011;2 (3):694-697
3. Tripathi Indradeva and Tripathi Dayashankara . Yogaratnakara, Krishnadasa Ayurveda Series 54,Varanasi, Chaukhambha Prakashana:2007: pp.4
4. Byadgi P S. Rogi Pareeksha and Roga Pareeksha. Parameswarappas Ayurvediya Vikriti Vigyan & Roga Vigyan. 1st edition. Volume 1. Varanasi, Chaukhambha Sanskrit Sansthan:2007:pp 376
5. J. K. Anastasi, L. M. Currie, and G. H. Kim. "Understanding diagnostic reasoning in TCM practice: tongue diagnosis," Alternative therapies in health and medicine: 2009 15.(3):pp. 18–28.
6. S. Rastogi and F. Chiappelli. "Bringing evidence basis to decision making," in Complementary and Alternative Medicine (CAM): Prakriti (Constitution) Analysis in Ayurveda. chapter 7.2010 :pp. 91–107
7. D. Bakshi and S. Pal. "Introduction about traditional Tongue Diagnosis with scientific value addition," in Proceedings of

the International Conference on Systems in Medicine and Biology (ICSMB '10). Dec. 2010: pp. 269–272.

8. Tripathi Indradeva and Tripathi Dayashankara. Yogaratnakara, Krishnadasa Ayurveda Series 54,Varanasi, Chaukhambha Ayurveda Prakashana:2007: pp.13

9. An Experienced professor, (1996), Notes on Pathology Bacteriology Virology & Parasitology by 10th revised edition, Shroff Publishers and Distributors. GJRMI: 1 (5). May 2012: pp.186–201

10. Mahamad Yunus, Mohasin Kadegaon, V.S. Kotrannavar. Tongue, its examination and clinical implication. Int. J. Res. Ayurveda Pharm. Mar - Apr 2016;7(Suppl 2):154-155 http://dx.doi.org/10.7897/2277-4343.07277

11. Kasera WS. Ayurvedic Tongue Diagnosis. Edition 2007, Mothilal Banarsidass publishers, Delhi, India.Chapter 2, The Three Doshas: pp. 55-96.

12. Kasera WS. Ayurvedic Tongue Diagnosis. Mothilal Banarsidass publishers, Delhi, India.Chapter 9, Ayurvedic Tongue Diagnosis: Edition 2007: pp. 191-250.

13. M. M. Ko, J. A. Lee, B.-K. Kang, T.-Y. Park, J. Lee, and M. S. Lee, "Interobserver reliability of tongue diagnosis using traditional Korean medicine for stroke patients," Evidence-based Complementary and Alternative Medicine, vol. 2012.[cited 2016Aug.4]:Available from: http://dx.doi.org/ 10.1155/2012/209345

14. C. J. Jung, Y. J. Jeon, J. Y. Kim, and K. H. Kim, "Review on the current trends in tongue diagnosis systems," Integrative Medicine Research. 2012. 1 (1):pp. 13–20,

15. Sharma Rohit et al.Astasthana Pariksha - A Diagnostic Method Of Yogaratnakara And Its Clinical Importance, Global Journal of Research on Medicinal Plants & Indigenous Medicine. 1(5), May 2012:pp. 186–201

16. Vrinda Kurande et al. Interrater Reliability of Diagnostic Methods in Traditional Indian Ayurvedic Medicine, Evidence-Based Complementary and Alternative Medicine, Volume 2013, [cited2016Aug.02] Available from: http://dx.doi.org/10.1155/2013/658275

17. Minah Kim, Deirdre Cobbin, and Christopher Zaslawski, Traditional Chinese Medicine Tongue Inspection: An Examination of the Inter- and Intrapractitioner Reliability for Specific Tongue Characteristics. The Journal of Alternative and Complementary Medicine.14 (5): pp.527-536.

18. Chang Jin Jung et.al., Review on the current trends in tongue diagnosis systems, Integrative Medicine Research: 1(1) December 2012: pp. 13–20

19. Ratchadaporn Kanawong, Computer-aided tongue image diagnosis and analysis, University of Missouri at Columbia Columbia, MO, USA ©2012[cited 2016 Sept.20]:Available from: dl.acm.org/citation.cfm

20. Dhanalakshmi Miryala et.al., Computer Aided Image Enhancement of Tongue for Diagnosis in Ayurvedic Medical Treatment" Applied Medical Informatics Technology Platform :34(1) :2014: pp: 46-56

21. Min-Chun Hu et.al." Automatic Tongue Diagnosis Using a Smart Phone" TongueDx: A tongue diagnosis system for personal health care on smartphone, National Cheng Kung University, [cited 2016 Sept.09] Available from:Taiwan,anita_hu@mail.ncku.edu.tw

22. Ini Ryu, Siio Itiro. Tongue Dx: A tongue diagnosis system for personal health care onsmartphone2013[cited2016 Sept.09] Available from:.siio.jp/projects/papers/his

Cite this article as:

Misar (Wajpeyi) Sadhana. Jivha pariksha - One of the diagnostic tools in Ayurveda: A review. Int. J. Res. Ayurveda Pharm. Nov - Dec 2016;7(6):11-13 http://dx.doi.org/10.7897/2277-4343.076231