Review Article

ROLE OF MODERN DIAGNOSTIC METHODS IN AYURVEDIC DIAGNOSIS: CONCEPTS & PROSPECTS

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ABSTRACT

Diagnosis is a very vital aspect of Ayurvedic treatment. Diagnosis according to *Ayurveda* is to find out root cause of disease. Unless the proper diagnosis is done, it is difficult to provide medicine & cure the disease. To give permanent relief, the root cause has to be removed. The causative factors can be the food, life style or some external factors like bacteria, viruses, epidemiology etc. In Ayurveda the diagnosis and treatment of disease is always individual to each patient. As *Ayurveda* treats according to the constitution of an individual (*Prakriti*), it is known as highly accurate and personalized method of analyzing diseases. All disease are caused by aggravation & imbalance of ' *Tridosha'* i.e., *Vata, Pitta, Kapha.* The *Tridosha* aggravation may occur due to the intake of improper diet, life style & *Mandagni* which need to be diagnosed properly by Ayurvedic method for best result. In the beginning most of the student & practitioners find that it is very difficult to diagnose a disease on the basis of Ayurvedic principles. It has need of knowledge, examination skill, logical thinking and continuous practice. Modern medical practices will often pacify the symptoms without addressing the cause. But in diagnostic point of view modern tools like CT scan, MRI, Haemogram, ECG, 2D Echo etc. are very useful in critical condition. This article discusses about some diagnostic approaches of *Ayurveda* as tool for *Nidan* as well as role of modern diagnostic method over *Ayurvedic nidan*.

INTRODUCTION

Ayurveda is a traditional medicine & natural healing system in India. The word '*Nidan*' means to identify the disease in whole aspect. Ayurvedic diagnosis is based on etiological factors. The approach of diagnosis involves investigation of causes & their correlation with sign and symptoms. Ayurveda classified *Madhav nidan* is a classical approach of diagnosis having more than 5,000 sign & symptoms for the identification of diseases. Diagnosis in *Ayurveda* mainly depends on the *Prakriti* of an individual and progression of the diseases. Another important aspect of diagnosis (*Vikriti pariksha)* is consideration of *Dosha* movement and pathology of *Dhatu* and *Mala.* A Physician job is to know the human body & its function. The four cornerstones of diagnosis are anatomy, physiology, (function of *Dosha Dhatu, Mala*), pathology (what can go wrong with the anatomy & physiology) & psychology (thought & behaviour) once the Doctor knows what is normal & can measure the patient's current condition against those norms, doctor can determine the patient's particular deviation from homeostasis and the degree of deviation is called diagnosis. Once the diagnosis has been reached the doctor is able to propose a management plan which will include treatment as well as plans for follow up.

"Rogastu Dosha vaishamyam, Dosha samyam Arogata' (Vag/su 1)

Aptopdesha, Pratyaksha and *Anuman Pramana* are the method used for understanding the stage, state and site of *Dosha*, state of *Dooshya*, and the site of *Dosha dooshya Sammurchana.*[1]

'Rogamaado Parikshet tatoanantaram Aushadhama" (Cha/su 20)[3]

The physician should examine first thoroughly and then treat the patient skilfully. *Roga pareeksha* comprises of a knowledge of etiology,

and symptomatology both and also include pathology. *Roga* is word which denotes disease, it is derived from the root-Run meaning pain or suffering an exclusive property of *Atma,* i.e. living organism. We get description in our classics about *Roga* and *Rogipareeksha. Ayurveda* advises person as whole treat as whole and use the drug as a whole.

MATERIALS & METHODS

Diagnosis in Ayurveda

The Physician should comprehend the nature of the disease through *Dosha, Ashraya,* (the site of manifestation) *Nidan* (etiological factors) then initiate the treatment. After understanding these three aspect, one who never fail in his attempt to cure the disease. Looking importance of *Dosha* imbalance, *Ayurveda* suggest some diagnostic tools which are as follows.

1. *Nidan Panchak*[7]

a) ***Nidan (Hetu)* (causes):** It consider the disease causing factors like diet, life style, environmental factors and injuries as sources of any disease which overall leads the imbalance of *Doshas.* The classics of *Ayurveda* correlates causatives factors with the type of *Dosha* associated with disease. In Ayurveda, according to Sushrut,

'***Sankshepata: Kriyayogo Nidanaparivarjanam.***" su u.1

Means avoiding the cause is considered as first line of treatment in most of the disease.

b) ***Purvarupa* (pre symptoms):** It consider initial sign and symptoms of disease. These symptoms may term as warning symptoms for any particular disease. Many disease may have similar sign and symptoms but their initial features may vary, thus disease can be diagnosed accurately initially with the help of *Purvarupa.* e.g. *Jrumbha, Angamarda*, *Alasya* in *Jwar.* [4]

c) ***Rupa* (symptoms):** It consider main sign and symptoms of a disease.eg. *Santap* (fever) in *Jwar*.

d) ***Upashaya* (relief):** Many disease having special preliminary signs and symptoms, these are the basic consideration of *Upashaya* applied for some special type of disease. The investigational and treatment option involve utilization of proper diet, herbal remedies or physical therapies. e.g. In *Amavata*, symptoms decreased after giving *Valuka swed* is conformed as *Amavat* and get relief after applying oil locally on joint in *Sandhivat.* These are confirmative test for both disease. Dietary changes may be recommended to conform suspected diagnosis.

e) ***Samprapti* (pathogenesis):** It is to get the proper knowledge about the pathway of disease manifestation. This provides complete knowledge of the disease development, stages, starting from the causes to the final stage of investigation; this approach considers role of *Doshas* as well as locations where the imbalance prompt (*Dooshya*). This approach takes each and every stage of disease developments as tool of diagnosis and treatment.
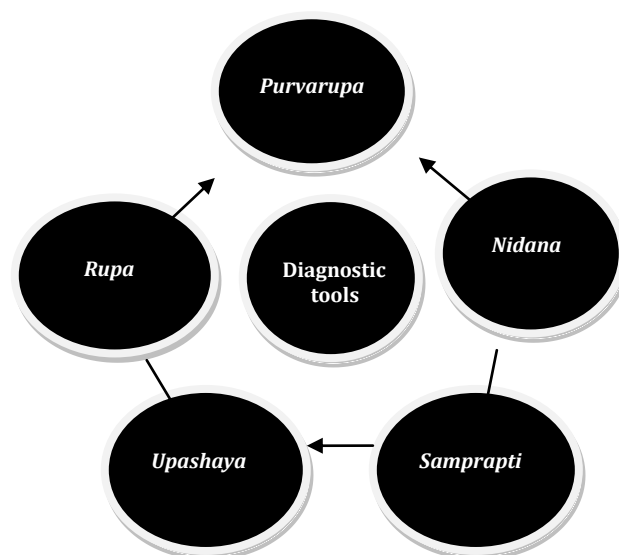
2) Principles of Ayurved *Nidan*

It has been said that the origin of Ayurveda involve scientific reasoning which works around its principles. Diagnostic methods of *Ayurveda* based on the principle concept of *Dosha* imbalances. *Ayurveda* suggest some methodologies for diagnosis of disease such as; *Trividh, Astavidh, Dashvidh, Nadi Pareeksha.*

Trividha Pareeksha: In *Ayurveda Acharya Charak* has mentioned *Trividha pareeksha* for *Rogi pareeksha* (patient).

> ➢ *Darshana*
> ➢ *Sparshana*
> ➢ *Prashna*

Darshana Pareeksha **(inspection)-** It means diagnosis of disease through patient observation (*Pratyaksha*) including physical manifestation of symptoms like General condition, skin colour, gait of body, eye appearance, behaviours, sitting position etc. e.g. Yellow colour of skin, nails, sclera, urine, suggest *Kamala vyadhi.* Sitting bending towards front side suggest Asthma, blood mix in sputum suggest *Rajayakshma, Urakshat, Kshyataj kasa.*

In this examination we always confused to diagnosed a disease, with the help of *Darshana pareeksha* we treat the patient symptomatically but not cure from the root. *Ayurveda* is an ancient science, that time they have *Divya buddhi*, and deep knowledge of epics, but in new modern science ask evidence, proof for accurate diagnosis, so we can't rely on this technique. That time they have no advanced technique, they were depend on *Trividha Pramana* but still they were successful.

Today with the advancement in the medical field the diagnosis of disease can be done from the beginning & the progress of disease can be stopped. *Darshan pareeksha* can be correlate with Some modern diagnostic methods which are as follows,

1. Haematology–CBC, KFT, LFT, Blood Sugar Estimation etc.
2. ABG through which we know the value of ph, urea, creatinine, CO_2, Na, K, blood gases.
3. X-ray help us to observe internal structure of the body parts, like bone, kidney stone, etc.
4. USG, CT-Scan, MRI, Endoscopy, Arthroscopy, Angiography, 2D-Echo, Mammography, are the advance technique of *Darshan pareeksha.*
5. Biopsy means Microscopic study of any organ like liver, tumour etc.
6. Hormonal assay, blood culture, urine culture.

These techniques are advance form of *Ayurvedokta Darshan Pareeksha* useful in Ayurvedic as well as modern diagnosis.

Sparshana Pareeksha: This *Nidan* approach principally involves diagnosis by using touching sensation, palpation and percussion.

Prashna Pareeksha: **(Interrogation)-** With the help of *Prashna* we get information about patient present illness, past history, which helps us to correlates with the instances, pathology of disease or *Dosha* imbalance.

Before reaching at a conform diagnosis, the physician must know other similar disorders having the same symptoms and clinical presentation which is known as differential diagnosis. The determination of which one of two or more disease by systematically comparing and contrasting their clinical finding is called differential Diagnosis.

Shatkriyakal [14]

Shatkriyakal is an Ayurvedic concept describes six stages of *Vikrut dosha* which are responsible for making disease that means physiological transitions from normal to abnormal conditions. These stages may help in early diagnosis of disease. These are, *Sanchaya, Prakopa, Prasar, Sthansanshraya, Vyakti, Bheda*, mentioned in *Sushrut Sanhita sutrasthan.*[13]

Elements of Ayurvedic diagnosis

1) ***Hetu:*** *Mithya aahar vihar, Sannikrushta, Vipraprushta, Doshhetu, Vyadhihetu, Ubhay hetu.*
2) ***Dosh***: *Sthana* (location), *Atma rupa* (cardinal symptom), *Prakopa Lakshana* (symptoms of aggravated humor), *Gati* (movement).
3) ***Dooshya***: *Rasa- Raktadi sapta dhatu, mala*, *Khavaigunya* (genetic defect or defect in tissues).
4) ***Srotas***: System deformity like *Annavaha srotas*, etc, *Srotodushti lakshana*, (symptoms of vitiation of channel).
5) ***Agni***: *Ama* formation due to *Jatharagni mandhya* (indigested matter).
6) ***Srotodushti:*** *Atipravriti*, *Sanga* (obstruction), *Siragranthi* (tumor).
7) ***Rogamarga***: *Shakha* (periphery), *Marmasthi-Sandhi* & *Koshtha* (vital tissue, bone, joint &GIT).
8) ***Prakruti, Desha, Kala, Bala*** are also element which affect the disease prognosis.

Down Fall in *Ayurvedic* clinical diagnosis

• Due to the inclusion of *Nadi Pareeksha* (Pulse diagnosis) and Rasa Shastra, the practice of Ayurvedic Clinical Diagnosis declined greatly.
• During the Mughals period, the Mughal kings ordered forcefully to Royal Physicians to find an alternative and quick method to diagnosis, their

queens ailments without examining the complete body.

- Because the Mughals restricted the physicians to see face of queen. The Royal Physicians then started *Nadi Pareeksha*, to diagnose the diseases without examining eye, tongue, face and other body parts.

- *Rasashastra* was include in Ayurveda during 8th century AD. Most of the texts of Rasashastra opined that, for administering *Rasa Aushadhi*, there is no need of examining the *Dosha, Dushya, Srotas, Desha*, *Kala* etc factors. Then gradually, the practice of Ayurvedic clinical diagnosis declined.

Conformation of the diagnosis

After the complete examination of patient, if physician fails to arrive at final diagnosis then he has to seek the help of confirmatory tests.

Few confirmatory test mentioned in the classics are.

a. *Purish Nimajjana pareeksha* (stool sink test).[5]

b. *Dushita Rakta Pareeksha* (examination of vitiated blood) i). By dog etc. ii). Stain test.[6]

c. *Mootra Pareeksha* (examination of urine) *Peeplika Abhidhavanam.*[8]

d. *Tail Bindu Pareeksha* (*Yogaratnakar*)

e. *Shukra Pareeksha* (examination of semen)[9]

f. *Artava Pareeksha* (examination of menstrual fluid).[12]

Acharya Sushrut has described *Nadi yantra* and *Salaka yantras* which applied for visualizing and finding out hidden diseases as well as *Shalya,* e.g. Probe (*Eshani*) for finding the direction of sinus and fistula.

Importance of modern diagnostic method

Today with the advancement in the medical field the diagnosis of disease can be done from the beginning & the progress of disease can be stopped. But sometimes the patient cannot afford expensive imaging technique like CT-Scan, MRI etc. Thus we have to know the diagnosis according to *Ayurveda* which help in reducing the financial burden on the suffering patient. Once the patient has completed the diagnosis, he explains the prognosis to the patient and proposes a treatment plan which includes therapy and follow up. (further consultation and test to monitor the condition and progress of treatment, if needed,) it happens usually according to the medical field (modern diagnosis) in the particular disease. Treatment itself may indicate a need for review of the diagnosis, if there is a failure to respond to treatment that would normally work.

The advantage of modern clinical diagnosis is that it help early diagnosis of the diseases and also to know the prognosis of patient.

Utility of Diagnosis

- Early diagnosis helps in complete and faster recovery.

- Early diagnosis helps in prevention of complications.

- The accurate diagnosis helps in planning precise treatment for destroying the root cause of disease and thus recurrence of disease has less chance.

- Early and correct diagnosis saves money and reduces mental stress of the patient.

Current Practice: There are two types of diagnosis viz. provisional and final. According to Vaidya C. P. Shukla Gujarat (Ayurved university), diagnosis is of 3 types.

a. Direct diagnosis: Diagnosis made purely on the basis of clinical feature told in the classics.

e.g. *Kamala, Amavata*

b. Indirect: Some feature of disease matches with disease explained in the classics.

e.g. *Grahani* = IBS, *Galaganda* = goitre.

c. Diagnosis of unknown disease: It is made with the help of *Aptopadesh Pareeksha Bhava*.

e.g. Hypertension, fibromyalgia

Vaidya CP Shuklaji opines that, the deeper understanding of disease pathology in terms of modern helps in the Ayurvedic diagnosis as well as prognosis. e.g., in case of Prostate Cancer if the physician doesn't know the symptoms of *Mutravaha Srotodushti*.[15] are due to *Arbuda* (*Vata Ashteela*)[16] and he simply treat on the lines of *Mootraghat*, finally it will lead to metastasis and death. In case the physician fails to arrive at final diagnosis, then he can take the help of modern diagnosis. Some hard core practitioner of *Ayu*. think that there is no need of modern knowledge. But I think that modern knowledge enables the physician to know the subtle changes in *Dooshya,* prognosis and management.

DISCUSSION

Ayurvedic text have described different types of *Pareeksha* (Diagnostic method) viz. *Trividha Pareeksha*, *Panchavidha, Shadavidha, Ashtavidha, Dashvidha Pareeksha* which are very precise, elaborative, practical and economical.

Modern imaging method like CT-Scan, MRI, EEG, ECG, are useful tools for the diagnosis of the deep seated diseases in a particular organ. However, they are expensive and not afforded by all patient, also in the reporting of these investigation,

it is written in the end 'Please correlate clinically', which show that *Pratyaksha pareekasha, Aptopdesh*, *Anumana Pareeksha* are most important. e.g., in case of Tuberculosis patient clinical examination is the diagnostic tool. If the patient is suffering from clinical symptoms of TB like evening rise of temperature, night sweats, weight loss, anorexia, etc then the patient may be suffering from TB. Investigation are, TB Gold, Mantoux test, chest X-ray, ESR but sometime these test are not 100% reliable. So, it is need of time to increase our proficiency in clinical diagnosis. Knowing the use of modern diagnostic methods is appreciable, but it is more important to know the conditions in which these investigations should be used. Overuse of laboratory investigations must be discouraged.

Prospects of clinical diagnosis

Vaidya can be classified into two categories a) *Vikalpavid* and b) *Avikalpavid*. *Vikalpavid* (expert physician) is the one who can understand the subtle changes in *Dosha, Dhatu, Mala, Agni, Srotas*, & its variation by his *Dnyan Chakshu* (sixth sense), capable of arriving at precise final diagnosis in shorter time. But in contrary *Avikalpavid* is not able to do so. Most of the current practitioners belong to second category due to lack of intuition & practical training. They have need the help of modern methods to understand the pathology of the disease (subtle changes in *Dosha, Dhatu, Mala*).

Table- Ayurvedic correlation of Lab Tests

Lab Tests	*Ayurvedic* Correlation
RBC, Hb %, WBC, Platelet Count, MCV, MCHC, MCH.	*Rakta Dhatu*
Eosinophilia	*Vata Vriddhi* or *Prakopa*
↑ Neutrophilia	*Saama Kapha* and *Pitta*
↑ Lymphocytes	*Nirama Kapha*
Serum Electrolytes	*Rasa Dhatu*
Serum Calcium, Phosphate	*Rasa Dhatu, Asthi dhatu*
Serum Creatinine, EMG	*Mamsa Dhatu*
Serum alkaline phosphates, osteocalcin, Acid Phosphate, urine calcium (24 Hours)	*Asthi Dhatu*
Semen Analysis, Testosterone, FSH, LH	*Shukra Dhatu*
Lipid profile	*Rasagata Sneha (Abaddha Meda)*
LFT (Liver function test)	*Rakta dhatu, Pitta dosha*
PFT (Pulmonary function test)	*Prana Vayu*
RFT (Renal function test)	*Mutravaha srotas*
TMT, ECG, ECHO	*Vyana Vayu*

CONCLUSION

1. In order to diagnose the disease on the basis of Ayurvedic principles, the physician should work very hard to know the subtle changes occurring inside the body due to the imbalance of *Dosha*.
2. To become perfect in Ayurvedic diagnosis, the physician need to understand *Dosha vikalpa* (*Dravyataha-Gunataha-Karmataha vriddhi* of *Dosha) Dhatu vaishamya*, *Agni sthiti* (condition of digestive fire like, *Samagni, Mandagni* etc.) and status of *Ama* (toxic matter) in body.
3. If necessary the *Vaidya* can use modern tools and method of diagnosis judiciously.
4. We should be use modern tools of diagnosis to integrate our Ayurvedic practice in front of modern science as evidence base research.

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