

THE CONCEPTION OF NADI ITS EXAMINATION

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ABSTRACT: *The examination of Nadi (pulse) in diagnosis of diseases in the Indian system of medicine is minutely discussed here. Also the author throws some light on the emergence and its importance of this science in Ayurveda.*

Meaning tubular stalk or flute (from nada, hollow reed which grows in the rainy season), the word nadi, is as old as the Vedic literature (e.g. RV 10, 135, 7; AV, 6, 138,4) used in the human body. It is often used synonymously with dhamani (RV 2, 11,8; AV 1, 17 3 and 4), sira (or hira, although a distinction is sometimes made, as e.g. AV 7,35,2 hundred dhamanis and a thousand hiras) and snava ('tendons', AV 9,8,11 and 12;12,5,69). The diminutive form nadika, is also used (e.g. AV 5, 18, 8).

In the Vedic context, the nadi means conduits in the sense of spermatic ducts and cordons (AV, 6,138, 4). One of the Upanishads (Katha, 6, 16 speaks of a hundred and one nadis of heart, and another (Prasna,) 3,6) of the hundred nadis of the the heart with their thousand branches. This idea developed in due course into an elaborate doctrine of nadi organization in the human body (nadichaka). There are references to this in several puranas, (e.g. Padma, Brahma-vaivarta, Kalia), Upanishads (Prasnopanishad, Kshurikopanishad, etc.) and tantras (Kundalini-tantra, Rudra-yamala etc). There

seem to have been other texts by authors like Agneya, Yajnavalka, Dattatreya and Gautama dealing with this doctrine, for Krpala-misra's Nadi-prabobhana cites from them; Kanada's Nadi-vijnana mentions Gautameya and Vasishtha.

However, the present meaning of pulse, amenable to examination and helpful in diagnosis and prognosis, is absent from the Vedic an early religious literature. The concept of nadi – pariksha (pulse examination) is likewise absent from the classical texts of Indian medicine (CS, SS, KS, BS, AS, AHr, MN), although there are references in CS (indriya-sthana, 3, 'satatam spanda-sthana, 28, 32), AHr, (Sarira-sthana, 5, "hrasvam cha yat prasirsihi vyavidddham spandatau bhramsam") which suggest that these authors were acquainted with the doctrine of nadi. Its first occurrence appears to be in SaS (purva-khanda, 3, 1-11), about the thirteenth century. It is also mentioned in BP, (1, 7, 11-22), BYT, YR, Dhanvantari's Sarva-roga-nidanha, and Gada-samjivini. There are about 50 works dealing exclusively with this topic (e.g) Kanada's Nadivijnana, Ravana's nadi-vijnana,

sankara-sena's Nadi-jnana-tantra, Nadi-darpana, Nadi-nidana and Nadi-parikstha. In the course of time, pulse examination became very popular not only as a variety of examination by touch (sparsa-pariksta) but as a valuable aid for discovering the errant condition of dosas.

Pulse examination was regarded as an indispensable aid for the physician to ascertain the nature and severity of diseases. "Like the study of scriptures without understanding, like food without salt, like a woman who has been widowed, the physician would be without a knowledge of pulse-examination" (ND, 3,3):

BODHAHINAM YATHA SASTRAM
BHOJANAM LAVANAM VINA
PATIHINA YATHA NARI TATHA
NADIM VINA BHISAK.

"The physician who attempts to practice without a knowledge of pulse examination would not be prosperous, would not do the right thing, and could not obtain celebrity" (NP, 2,41):

NADIJNANAM VINA YO CIKIT SAM
KURUTE BHISAK SA NAIVA LABHATE
LAKSMIM NA CA DHARMAM NAVAI
YASAH.

Pulse examination was given primacy among diagnostic aids in all diseases : the pulse, tongue, eyes, urine and blood were sought to be examined in that order (ND, 3,3):

ADAU SARVESU ROGESU NADI
JIHVAGRANETRAKAM
MUTRARTAVAM PARIKSETA PASCAT
ROGAM CIKITSAYET.

Even as the strings of a lute articulate all the melody- moulds, the nadi of the hands can reveal all the diseases (ibid).

YATHA VINAGATA TANTRI SARVAN
RAGAN PRABHASATE TATHA
HASTAGATA NADI SARVAN ROGAN
PRAKASATE.

There are said to be three crores and a half-crore of nadis, gross and subtle, in the human body, all rooted in the region of the umbilicus and spreading upward, downward, and across. Among them 72,000 are gross, and carry the properties of the five sense-functions. The subtle ones (called sira, in SS, Sarira, 7,3) are 700 in number, and they carry uninterruptedly the 'food-juice' (anna-rasa). Prompted by the skin even as the mrdanga (a percussion instrument) is. Not all of them, however, are visible; only 24 are, and among them one alone (which extends to hands and feet) can be examined (c f SKD Todala-tantra, 8). It is directly related to the heart and therefore the condition of the entire body is reflected in it. In man, this nadi is to the right, and in women to the left. Its condition is perceptible on the wrist of the right hand of men, and of the left hand of women. It is also perceptible in the foot; but in practice the wrist is to be preferred.

The pulse for examination is to be found in the wrist immediately below the thumb. This pulse (nadi, dhamani) is described as the witness of the life-process in the body (jivasakshini), and as the evidence of happiness or misery within the body. When the physician presses against this pulse with his three fingers of the right hand (the forefinger, the middle finger and the right-

finger), he can feel by the first finger, movement that is diagonal in the part of the pulse that resembles a barley-deed. This portion of the nadi indicates the condition of vata. He can feel by the second finger the movement that is diagonal in the part of the pulse that resembles a barley-seed. This portion of the nadi indicates the condition of vata. He can feel by the second finger the movement that is quick and constant but in one point. This portion of the pulse that resembles a barley-seed. This portion of the pulse indicates the condition of pitta (fire' in the body). He can feel by his third finger movement that is oblique (horizontal) but slow and almost non-existent. This indicates the condition of kapha. The physician must press the pulse three times with his three fingers and release it, before he begins to feel exactly the condition of the three doshas. During examination, however, he must first discern pitta (with his middle finger), then vata (with his fore-finger) and finally kapha (with his ring-finger) (GOML, Madras, vol 23, NO. 13086).

The three doshas are perceived in the pulse as transverse movement (vata like the movement of wind), unsteady (pitta, like the flames of the fire), and steady (kapha, like the settling water). When vata is aggravated, the pulse at the point appropriate to this dosha, is perceived like the moving serpent or crawling leech. When pitta is aggravated, movement in the pulse appears like the flight of a crow or sparrow, or like the hopping of a frog. When kapha is aggravated, movement in the pulse is similar to the measured strutting of a peacock or the floating of a swan on water. When two dosas are together aggravated, the

movement in the pulse is sometimes slow, sometimes fast, when all three doses are troubled (samnipata), movement in the pulse is extremely erratic, sometimes very slow, sometimes very fast, resembling the flight of a quail (lavaka) or a partridge (tittiri). The physician will understand by pulse-examination whether the disease is hard to cure (krchrasadhya) or impossible to cure (asadhya). The dose that strays from its position on the pulse (sthana-vicyuta), the pulse that stops every now and then, the pulse that is extremely sluggish, and the pulse that is cold to touch indicate approaching death (Nadiprakasa, SKD).

The examination of the pulse was introduced into Greek medicine was early as 320 B.C. by Pnaxagoras of Cos. Herophilus is said to have evolved a system of counting the pulse by a water-clock. Pneumatists evolved an elaborate pulse lore. And it entered the field of Arabic medicine, and thence into the Yunani system. Chinese medicine had an ancient literature concerning pulse-examination. It cannot be ascertained with any degree of certainty when or how pulse-examination was introduced into Indian medicine. Its popularity during the middle ages and in the recent past is beyond doubt. It is likely that the 'Nadichakra' doctrine of the Yoga-Tantra complex provided the back-drop for the nadi-pariksha' method.

Examination of the pulse (nadi, principally the radial artery) is included in the eight-fold examination (ashta-sthana pariksa) which gained currency during the middle ages, however it is different from the pulse examination in European medical practice, where the pulse (usually the radial artery

running superficially at the wrist, and rarely also the carotid artery behind the knee and the posterior tibial artery at the ankle) is felt for rate, rhythm, volume and character, and given an idea about the condition of the circulatory system especially the condition of the heart. “pulse in this practice is little more than the change of pressure within the artery that occurs with each heart-beat. The pulse indicates its rate or rhythm, the size and condition of the arterial wall or the volume of blood that flows through the artery, or the force with which the blood flows. But pulse in Indian medical practice is the “witness of the living processes” (jiva-saksini), and its examination helps the physician ascertain not only the totality of all the vital functions of the patient’s body (including mind) at the time of examination but also its trends in future”.

The assumption is that the nadi pulsates characteristically differently under the influence one, two or all three of the doshas (vata pitta and kapha). The ascertainment of these differences is of great value in diagnosis as well as prognosis. “The sum total of whole impression that the physician acquires, through the degrees of abnormality that exists in the vitiation of vata, pitta and kapha helps the physician to estimate the prognosis... “The investigation is used chiefly to ascertain the deranged dosha or dosas to the extent to which they are respectively deranged, and also to forebode any complications of impending death”.

When the pulse is examined, it involves the physical examination of the artery; but it is not merely a mechanical counting of the pulse rate. It is an art as well as a science.

‘Even as the strings of a lute illumines all the melody modes, the radial artery (hastagata nadi) shows up all the diseases (in the body)’ (Nadi-darpana). To become proficient in pulse examination, incessant practice is important; but more important is the trance-like concentration (Samadhi) which the physician is capable of while examining the patient, for it is only by such concentration he can enter, with the aid of the lamp of wisdom (jnana-buddhi pradipena’), into the very inside of the patient (‘visati aturasya antar atmanam’) (CS, vimana 5,12). The expertise is obtained by the grace of a competent teacher.

The examination as it was standardized in India involved the ascertainment of the size or volume of the pulse (determined by the condition of kapha), frequency or rapidity of the pulse (indicated by the condition of pitta), and the rhythm or regularity of the pulse (determined by the condition of vata). The purpose is to know the prevalence of a particular dosa or a combination of two or all three dosas. The articulations of the pulse under the influence of such prevalence are likened to the creeping movement of a leech or a snake (in vata prevalence), to the leaping movement of a frog, crow or a sparrow (in pitta prevalence), to the leaping movement of a frog, crow or a sparrow (in pitta prevalence), and to the steady movement of a swan, a peacock, of a pigeon (in kapha prevalence) (SaS, 1, 3,1). The movements may be characteristically isolated (when dosas vitiated are severally responsible for the diseases) or may occur in combinations of two (like vata-pitta, vata-

kapha and pitta-kapha) or of all three sannipata).

When the pulse articulates now emulating the movement of the snake, and then that of the frog, the indication in that both vata and pitta have been vitiated. When, however, the articulations of the pulse resemble the movements of a snake as well as a peacock then vata and kapha are vitiated. If the pulse is felt as jumping like a frog alternately with the gait of peacock, then pitta and kapha are vitiated. When all three dosas are vitiated (the condition known as sannipata), this is indicated by the alternative slowness of the pulse (manda), intermittence (sithila), crookedness (vyakula) and fickleness (chanchala). The pulsation appears, disappears and reappears frequently. At times it is very subtle and hard to be perceived, it varies time and again. The pulsation in this condition is likened to the unpredictable flutter, flight and immobility of a partridge (tittiri) or a quail (lavaka) (saS, 1,3,3), or to the movements of a rodent caught in a heap of fire-wood (Lolimbaraja).

The examination of the pulse is done for the length of time the pulse takes to beat thrity times, or longer, if required. Usually it is repeated twice (viz., three counts in all). But in between the counts, the physician withdraws completely his hand from the patient's wrist.

Both the patient and the physician must be comfortably seated while the pulse is being examined, and must be free from worry, fear, stress, and bodily urges. The patient's hand must be free, not too far nor too near the physician, slightly flexed at the forearm. The physician with his left hand massages

the hand of the patient slightly and holds it lightly; and then places gently the three fingers of his right hand; the forefinger is placed nearest the thumb, and the other two fingers next to it in order.

The best time for pulse-examination is said to be early in the morning. The articulations of the pulse characteristically differ during the course of the day, for in the early hours of the morning kapha prevails around noon time pitta, and in the evening vata; and in the early parts of night kapha, around midnight pitta, and last part of the night vata. Seasons also play an important role in altering the pulse-examination. The pulse articulations also vary in accordance with the patient's bodily condition (hunger, thirst, sleep, exertion, food in the body and stage of digestion, posture etc), mental state (excitement, anger, sorrow, joy, etc) and environmental conditions (exposure to sun, heat, cold breeze, strong smells etc).

Pulse examination is not indicated in certain conditions of the physician inebriation, suppression of natural urges and extreme distraction; or if the physician is greedy or sexually excited (NP, 2, 41):

PITAMADYA CANCELATMA
MALAMUTRADI VEGAYUK
NADIJNANASAMARTHAH
SYALLOBHAKRANTASCA
KAMUKAH.

Pulse examination is a difficult art, and presupposes not only long, and assiduous practice but insight into the normal human constitution as well as pathogenesis.

Scriptural study alone would not be sufficient; guidance of an expert teacher is indispensable. Likewise constant practice is of paramount importance; and one must indeed be lucky to become adept in it:

PARIKSANIYA SATATAM
NADINAM GATAYAH PRIHAK
NA CADHYAYANA MATRENA
NADIJNANAM BHAVEDIHA.
NA SASTRA VIJNA NADAPI
NA BAHUSRTAKARANAM
NADIJNANE MANUSYANAM
ABHYASAKARANAM PARAM
SADURUPADESACCA
DEVATANAM PRASADATAH
NADI PARICAYAH SAMYAK
PRAYAH PUNYENA JAYATE
(ND, 3,3)

The physician who is wise and disciplined in personal life, must examine the pulse only when he is in a state of perfect composure ('ekacittah prasantatma') for otherwise, the pulse will not reveal the details:

NADIGATIMIMAMJNATUM
YOGABHYASAVADEKATAH
SAKYATE NANYATHA VAIDYA U
PAYAIH KOTISAIRAPI.

Its especial value consists in helping diagnose the disease of patients who cannot communicate (dumb folk, patients with paralysed speech, patients who have lost consciousness, patients who are 'possessed'

an talk irrelevantly etc). Amidst the welter of confusing symptoms, the pulse can provide an accurate picture of the diseased condition of the body 'like objects being illumined by a lamp'. It tells the physician the condition of the body 'like objects beings being illumined by a lamp'. It tells the physician the condition of the three doshas (vata, pitta and kapha), severally (vyasta), in pairs (dvandva or yugalikrta) and collectively (samasta, or samnipata). It also suggests to him the ease or difficulty with which treatment could be effected, or whether the disease is altogether incurable ('sadhyasadhya – viveka')

Abbreviations Used

AHr	: Ashtanga – hrdaya
AS	: Ashtanga – Samgraha
AV	: Atharva – veda
BP	: Bhava – prakasa
BS	: Bhela –samhita
ByT	: Brhad – yoga- tarangini
CS	: Charaka – samhita
GOML	: Govt. Oriental Manuscripts Library
KS	: Kasyapa – samhita
MN	: Madhava – nidana
ND	: Nadi – prakasa
SaS	: Sarngadhara – Samhita
SKD	: Sabda – kalpa – druma
SS	: Susruta – samhita
YR	: Yoga – ratnakara