Ancient Science of Life, Vol No. XIV Nos. 1 & 2, July-October 1994, Pages 21 - 34

IDENTIFICATION OF PSYCHOSOMATIC CONSTITUTION ON THE BASIS OF TRIDOSA NADIPARIKSA AND NEUTROHUMORS

ANKUL CHANDRA KAR, B.N. UPADHYAY AND D. OJHA

Department of Kayachikitsa, Institute of Medical Sciences, Banaras Hindu University, Varanasi – 221 005, India

Received: 22 February, 1994 **Accepted: 15 April, 1994**

ABSTRACT: *The constitution of a man is considered to determine his susceptibility to different diseases, the pattern of their presentation, the general course, complications and the over all prognosis. Accordingly it also determines the individual response to the therapy given.*

Likewise on the basis of Nadipariksha, the physiological as well as pathological status of vata, pitta and kapha can be detected. For example vatika pulse possesses smallest percussion wave with its conical summit, rudimentary or no dicrotic notch, highest pulse rate and lowest pulse pressure in relation to paittik and kaphaja pulses. By examining the pulses, the qualitative and quantitative status of diseases can be detected and accordingly the predominant prakriti will be identified.

The psychosomatic constitution appears to be the central theme in the consideration of health & diseases in the ancient Indian system of Medicine. All measures of preservation of health & cure for disease are based on consideration of constitution of individual. The constitution of a man is considered to determine his susceptibility to different diseases, the pattern of their presentation, the general course, complications and the over all prognosis. Accordingly it also determines the individual response to the therapy given. In Ayurvedic literature "Deha prakriti" or Body constitution has been described in great detail to explain its importance both during health & disease. The ancient authors Charak, Sushrut & Vagbhatta have given in great details the salient features of three primary body constituents, Vataja, Pittaja and Kaphaja, so that one could recognize these body constituents in clinical practice without much difficulty.

It has been felt that the personality of a man is the composite product of the makeup his mind & the body both. Moreover it is generally observed that every mental or psychic event produces its effects on the body which is obvious in cases of disturbed emotions leading to the causation of no. of psychosomatic disorders such as peptic Ulcer, Thyrotoxicosis, hypertension, coronary thrombosis etc. Thus the body and the mind are interdependent on each other & they are the two major components of the one composite entity, the personality or the Psychosomatic constitution. In spite of the recent recognition of the significant role of human constitution in clinical medicine not much progress appears to have been made on the understanding of this subject. As no definite quantitative methods have been described to determine these body constitution accurately, all the findings remained mostly as a matter of subjective assessment. Therefore, there is need to develop a single criterion to classify the total personality, without which the

comprehensive can not, be applied to the vital problems of health and disease. So in this paper the authors have tried to introduce a method to determine the body constitution by compiling the various data's of different research workers. The method is purely concentrated on the basis of Tridosa character, Nadi pariksha & the basal level of Neurohumors.

1) ON THE BASIS OF TRIDOSA THEORY

The entire science of Indian Medicine has been developed in terms of three basic humors, the Vata, Pitta & Kapha. These three humors form the basis of the structure & function of the entire human body. For the sake of gross understanding of this concept, it may be stated that the entire solid structure of the body including body cells, fibers, interstitial structures and the biological fluids constitute the Kapha system of the body. The entire hormones, enzymes, coenzymes & other agencies responsible for the physiochemical activities constantly going on in the body during life, constitute the pitta system of the human organism while the entire spectrum of actions, reactions and responses including the mechanics of Neurotransmission form the Vata system. A coordinated and balanced functioning of all these three elements maintain the life of an organism and keeps it in health. Any loss of equilibrium and lack of co-ordination in the functioning of these three basic biological constituents, which may occur due to a variety of reasons, results into ill health.

Though a normal living organism is the result of the equilibrium of the aforesaid three humors, there is always a limited relative genetic variations of these humors in the body. It would be seen in relative analysis that certain persons posses relative preponderance of one or the other of the three humors or their combinations in terms of their structure and the function. This genetically determined relative preponderance of sub ordinance reflects into the variations that are seen in the psychosomatic constitution of a man. Thus the humoral constitution of a man is basically determined by the genetic variation of different humors in the body of course within a physiological limit.

Depending upon the relative preponderance of the three basic humors, the psychosomatic constitution of a man may be divided into seven categories namely Vatika, Paittika, Kaphaja, Vatapittaja, Vata Kaphaj, Pittakaphaja & Samadosaja. The different characteristics are in Table 1,2,3,4,5 and Fig.1

Fig.1 Statistical evaluation of mean weight among three groups of patients

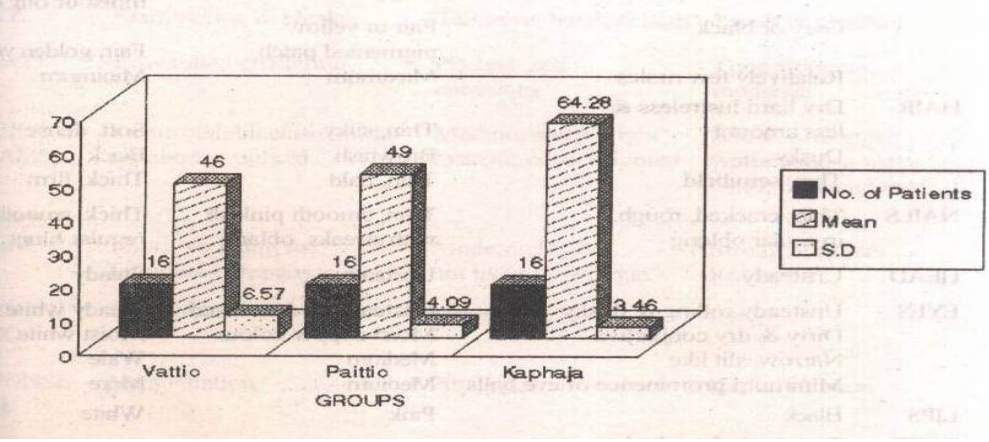


Table 1 – Physical Characteristics of Different Prakritis

SEAT OF STUDY	VATIKA	PAITTIKA	KAPHAJA
BODY	Thin, Disproportionate General Physique Dry, Ematiated Marked prominence of veins & tandons Flat & depressed chest Marked prominence of bony ends Pathetic & irritable countenance Unstable, hasty & quick movement & gait Minimum muscle tone	Medium Thin Delicately Shaped Dry body Medium prominence Round or barrel shaped Medium prominence Assertive & Irritable Unstable & agitated Medium Smooth, soft warm	Thick, well Developed Greasy, glossy Well covered Specious & well formed Minimum Handsome & calm face Stable & majestic Maximum Smooth, Soft moist or oily cold
SKIN	Dry, cracked, rough & cold Grey or black Relatively few moles	Smooth, soft warm Fair or yellow pigmented patch Maximum	Smooth, Soft moist or oily cold Fair, golden yellow Minimum
HAIR	Dry hard lusterless & less amount Dusky Thin, semibald	Thin, silky Brownish Thin, bald	Soft, dense Black Thick, firm
NAILS	Thin, cracked, rough, irregular oblong	Thin, smooth pinkish with streaks, oblang	Thick, smooth regular blunt
HEAD	Unsteady	Unsteady	Steady
EYES	Unsteady rolling & dusky Dirty & dry conjuctiva Narrow, slit like Minimum prominence of eye balls	Unsteady, red streaked Moist copper colour Medium Medium	Steady white Moist white Wide More
LIPS	Black	Pink	White
FACE	Rough, dark, pale dusty complexion	Fair, copper colour	Fair & bright

Table 2 – Physical Characteristics of Different Prakritis

SEAT OF STUDY	VATIKA	PAITTIKA	KAPHAJA
DIET	Irregular & high food intake diet habits Likes – light, warm, sweet, sour drinks	Irregular diet, maximum food intake Sumptuous Astringent foods	Regular lesser food intake Hot, bitter, Sour astringent
APPETITE & DIGESTION	Poor appetite with poor & slow digestion	Very good with quick digestion	Regular & good moderate digestion
THIRST	Lesser	Maximum	Less
EXCRETION	Constipated bowel, dry hard & seybalous stool Less sweat & micturition	Loose bowel, soft & yellow stool Profuses smelling sweat & micturition	Ordinary bowel, bulky & fatty stool Lesser sweat & micturition
VOICE	Stammering & Husky	Talkative, harsh & high	Sweet & pleasant
SPEECH	Low toned chattering	Pitched, self conscious	Tone eloquent moderate
SLEEP & DREAMS	Disturbed, blackish, brids air abodes sighted	Medium sleep bright lustrous object sighted	Sound prolonged cleep water abodes water birds, flora sighted
SEXUAL POTENCY	Poor, No liking for feminine company	Moderately poor, not liked by woman	Strong & potent Romantic
LONGEVITY DOSIC	Short lived	Moderate	Long
RESPONSE VITAL	Vata vitiation	Pitta vitiation	Kapha vitiation
CAPACITY	Least	Medium	Maximum

Table 3 – Physical Characteristics of Different Prakritis

SEAT OF STUDY	VATIKA	PAITTIKA	KAPHAJA
BODY WEIGHT	Lowest	Medium	Maximum
STANDING HEIGHT	Maximum	Medium	Minimum
SURFACE AREA	Minimum	Medium	Maximum
H/W RATION	Maximum	Medium	Minimum

(Ref. M.B. Singh – 1977)

Table 4 – Psychological Characteristics of Different Prakritis

MEMORY	Short	Medium	Strong
MENTAL GRASP	Good	Medium	Slow
WILL POWER	Least	Medium	Maximum
MENTAL STABILITY	Unstable	Medium	Maximum
COVERAGE	Least	Medium	Maximum
TOLERANCE	Least	Medium	Maximum
CONFIDENCE	Least	Medium	Maximum
BOLDNESS REASONING	Least	Medium	Maximum
POWER	Least	Medium	Maximum

Table 5 – Biochemical Body Composition of Different Prakritis

BODY FLUID	Minimum	Medium	Highest
ELECTROLYTE	Minimum	Medium	Highest
SOLIDMASS	Minimum	Medium	Highest percentage of Fat free Solid

(Ref. Prof. G. P. Dubey – 1971)

2. On the basis of Nadi Pariksha

On the basis of Nadi Pariksha, the physiological as well as pathological status of Vata, Pitta and Kapha can be detected. In clinical medicine no physical sign is more basic or important that the arterial pulse. From ancient times the pulses has been recognized as the most fundamental sign of life. The ancient physicians paid great attention to the character of the pulse in health and the changes which occurred in disease. Even today under emergency clinical conditions the modern physician frequently records the pulse directly through an intra arterial Catheter and he wishes to gain as much information as possible from inspection of pulse contour. So basing on the quality and the configuration of the Nadi, the predominant constitution can be detected. The different characteristics of the Nadi are in – Table 6 & 7 & Fig. 2,3 and 4.

The configuration tracing can be done by using the Dudgeon's Sphygmograph.

Table 6 – Qualitative Character of Pulses of Different Prakritis

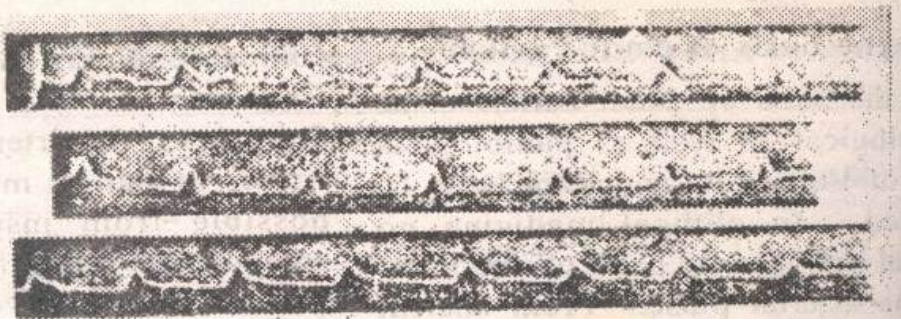
SEAT OF STUDY	VATIKA	PAITTIKA	KAPHAJA
RATE	Increased relatively than Paittika & more increased than Kaphaja	Slower than Vatika but more than Kaphaja	Slowest of all
RHYTHM	Regular time interval between 2 wave is minimum	Regular time interval is medium	Regular time interval is maximum
VOLUME	Small	More than Vatika & Kaphaja	More
FORCE	Lower than Paittika & Kaphaja	Bit more	More than Vaitika
TENSION	Lower than Paittika & Kaphaja	Bit more	More than Vaitika
CHARACTER	Percussion wave is of shore duration	Moderately Rapid & Longer duration	Longest Duration

Table 7 – Configurative Character of Pulses of Different Prakritis

PERCUSSION WAVE	Smallest	Longest	Medium
SUMMIT	Conical	Sharply Conical	Rounded
DICROTIC NOTCH	Rudimentary or absent	Marked	Small

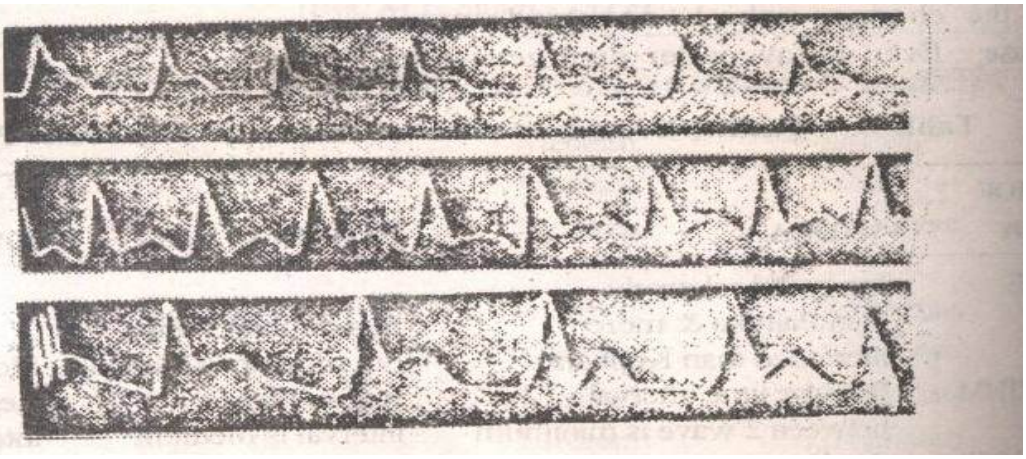
(Ref. Nadi Vijnana – Dr. S. D Upadhyaya)

Fig. 2



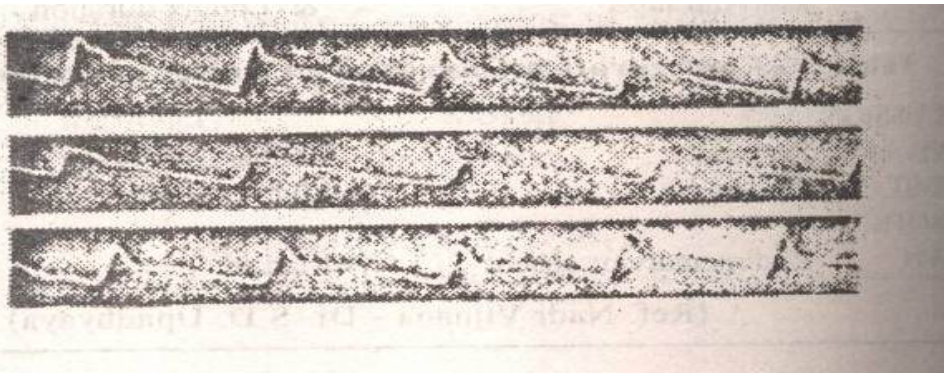
1. **Vaitik pulse :** Due to the more small distance between two points of onset of percussion wave, the tracing of the pulse appear to have curvilinear motion and the look of the tracing, as a whole gives the weavy appearance resembling to the movement of the snake.

Fig. 3



2. **Paittik pulse :** The distance in between the onset of two points of percussion wave is relatively greater than Vatik type of pulse. At a glance the general appearance looks to be of jumping character resembling the movement of frog.

Fig. 4



3. **Kaphaja pulse :** The distance between two points of onset appears to be more than the rest varieties of pulses. The slow & steady character of the pulse coincide more to the movement of the goose.

3. ON THE BASIS OF NEUROHUMORS

It is now well established that various Neurohumors are responsible for conveying messages not only from the brain to different parts of the body but also within the brain from one centre to other. Amongst them Acetylcholine, Noradrenaline & histamine are the main neurohumors involved in the action of all the organs & tissues of the body functioning voluntarily or involuntarily throughout the life. Whenever various centres of the brain receive the message through these neurohumors to different parts of body action goes on life long in greater or lesser degree depending upon the genetic body constitution & the various environments in which the person happens to live.

To establish a biochemical basis of different constitution, the work done by Udupa et al. 1975 (IJMR) is very significant. They have psychosomatotyped 84 apparently healthy normal males following modified Sheldon's technique. Simultaneously these volunteers were subjected to a biochemical determination of plasma Diaminooxidase (DAO), Plasma Monoaminooxidase (MAO) & RBC cholinesterase (ChE). The final analysis of the data indicates a significant relative preponderance of DAO, MAO and ChE in Endo, Meso and Ectomorph respectively. As these enzymes have known parallelism with the respective neurohumors namely Acetylcholine, Catecholamine and Histamine, these biochemical types may be designated as Histotrophic, Vasotrophic & Neurotrophic respectively inview of the specific function of three neurohumors.

The biochemical studies showed highest level of histaminase (DAO) in Endomorph i.e 155.14 ± 82.84 P.U / ml in the range 123.82 – 186.46 as compared to 121.36 ± 38.17 & 115.13 ± 60.49 P.U/ml in Ecto and Mesomorph respectively. The comparative difference were statistically significant ($P<0.05$).

The mesomorphic group showed the highest level of MAO, the mean values being 20.83±9.70 P.U/ml in the range 17.29-24.37 P.U/ml as compared to 14.65 ± 7.61 & 14.61±7.84 P.U/ml in Ecto and Endo groups respectively. The comparative differences were again statistically significant ($P<0.05$). The RBC, ChE level did not vary significant in the 3 groups. As ChE level does not vary in different groups.

Table 8 : Showing the pattern of biochemical findings in different types at prakrtis.

S. No.	Corresponding Psychosomatic groups	Statistical observations	DAO in P.U/ml	MAO in P.U/ml	Cholinesterase in P.U/ml
I	Histotrophic or Endomorphic or Viscerotonic or Kaphaja	No. Observations Mean S.D 95% confidence interval	28 155.14 +82.84 123.82-186.46	28 14.61 +7.84 11.33-17.89	28 123.5 +9.84 119.6-127.4
II	Vasotrophic or Mesomorphic or Somatotonic or Pittaja	No. Observations Mean S.D 95% confidence	31 115.13 +60.49 93.76-136.50	31 20.83 +9.70 17.29-24.37	31 121.80 +8.11 118.5-125.1
III	Neurotrophic or Ectomorphic or Cerebrotonic or Vataja	No. Observations Mean S.D 95% confidence interval	25 121.36 +38.17 106.09-136.63	25 14.65 +7.61 11.474-17.826	25 121.60 +10.53 117.4-125.80
	Composite No. Total series	Observations Mean S.D 95% confidence interval	84 130.32 +65.53 116.02-144.62	84 17.08 +9.01 15.01-19.15	84 122.33 +9.48 120.13-124.53
	Comparison	III vs II	$t < 1$ $p > 0.05$	t 2.59 $p < 0.05$	$t < 1$ $p > 0.05$
		III vs I	$t < 1.868$ $p > 0.05$	$t < 1$ $p > 0.05$	$t < 1$ $p > 0.05$
		II vs I	t 2.132 $p < 0.05$	t 2.57 $p < 0.05$	$t < 1$ $p > 0.05$

Fig. 5 Showing the pattern of biochemical findings (D.A.O.) in different types of prakrtis

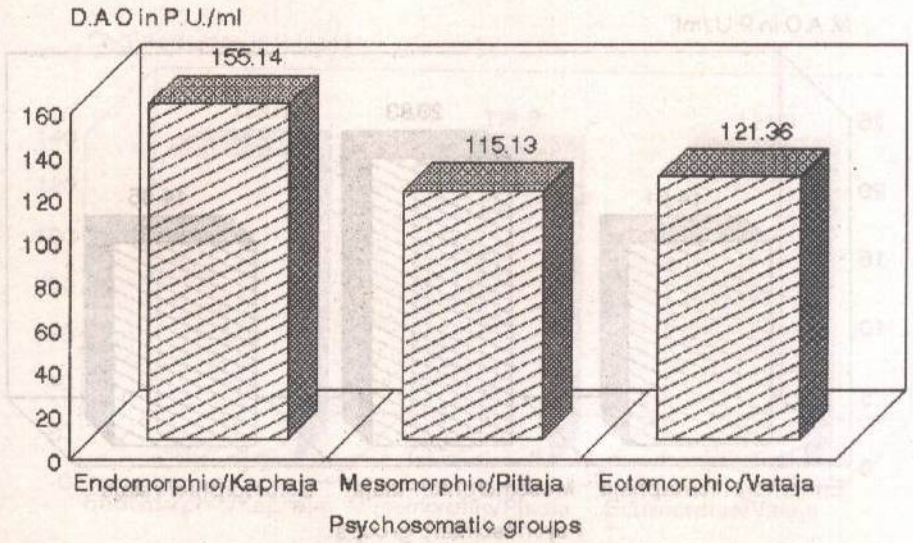


Fig. 6 Showing the pattern of biochemical findings (D.A.O.) in different types of prakrtis

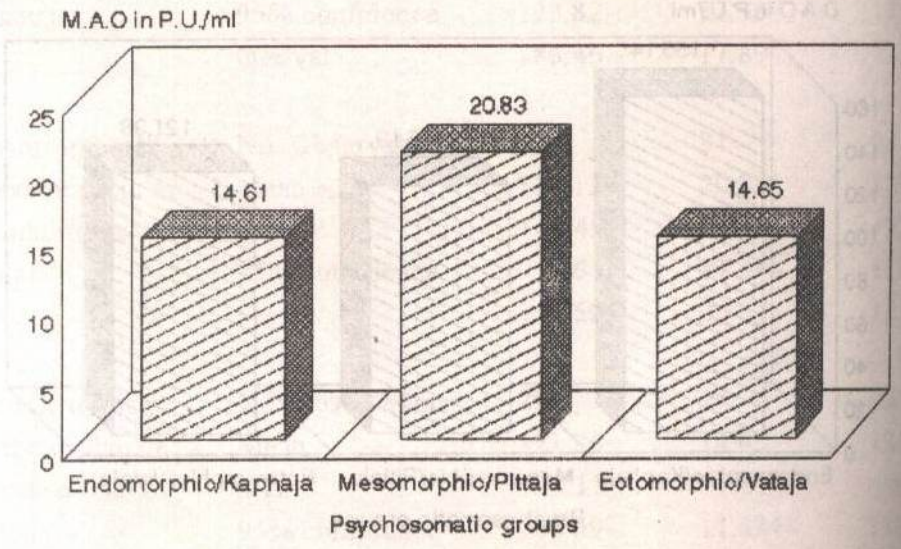
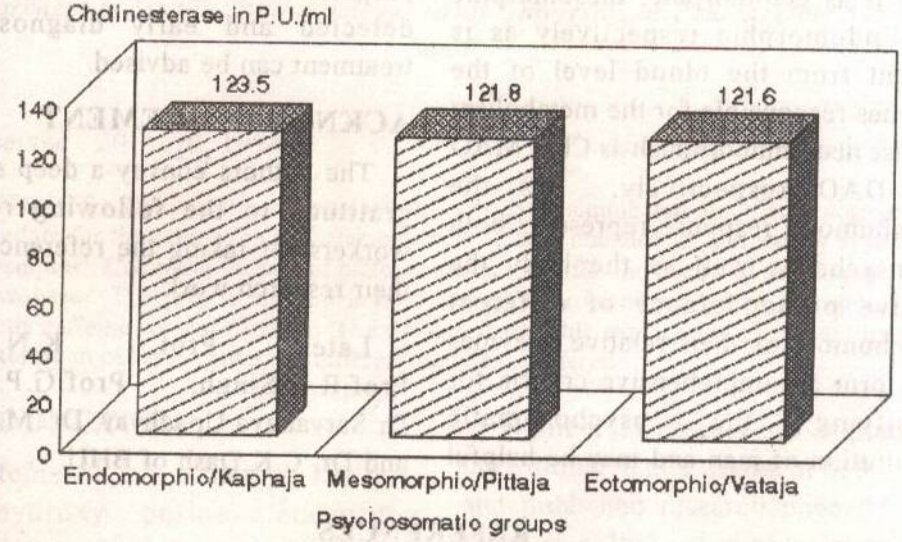


Fig. 7 Showing the pattern of biochemical findings (D.A.O.) in different types of prakrtis



in basal conditions, it varies notably in different groups when augmented by adequated degrees of stress.

So the observation made by Udupa et al. exhibit a significant relative preponderance of AcH, catecholamine and histamine response in person of three distinct constitution who could be labeled as ectomorphic, mesomorphic and endomorphic respectively as is evident from the blood level of the enzymes responsible for the metabolism of these neurohumors such as ChE, MAO and DAO respectively. As the neurohumoral response represents both the psyche as well as the body the relative preponderance of different neurohumors or their relative enzymes may form a comprehensive criteria for classifying the psychosomatic constitution of man and may be helpful in interpreting the incidence of different type of stress disorders in persons of different constitutions.

To conclude if the psychosomatic constitution will be detected basing on the above standard parameters i.e Tridosa, Nadipariksha and Neurohumors, that can be accurate and the preponderance of the diseases can be detected and early diagnosis and treatment can be advised.

ACKNOWLEDGEMENT

The authors convey a deep sense of gratitude to the following research workers for taking the references from their research work.

Late. Prof. K.N. Udupa, Prof. R.H. Singh, Prof. G.P. Dubey, Dr. Sarvadeva Upadhyay, Dr. M.B. Singh and Dr. C.K. Dash of BHU.

REFERENCES

1. Dash C.K. Studies on Halothane anaesthesia in relation to Deha Prakriti – M.D. Thesis (1991) Deptt. of Shalya Shalkya, BHU.

2. Dubey G.P. & Singh R.H. Advances of Research in Indian Medicine – 1970.

3. Shastri, Ambikadutta – Sushruta Samhita Sarira Sthana 4 : 62 – 76

4. Shastri, Kashinath – Charak Samhita – Vinana Sthana 8: 105 – 109, Sarira Sthana 4:34 & Sutra Sthan 9 : 4 & 1 :54.

5. Sheldon et al. The varieties of human physique – 1940.

6. Singh R. H. & Dubey G.P. – Journal of Research in Indian Medicine – 1967.

7. Udupa et al. Indian Journal of Medicinal Research – 1975.

8. Udupa K.N. & Singh R.H. – Science & Philosophy of Indian Medicine.

9. Upadhyay S.D – Nadi Vijnana.