

Course : PG Pathsala- Biophysics

Paper 03 : Thermodynamics of Living Systems and Bioenergetics

Module 20 : Concept of Prakriti in Ayurveda

Content Writer : Dr. Kumari Vandana, MD (Ay.)Kaumarbhritya, IMS, BHU

The broad objectives of this module are

- 1. Introduction**
- 2. Prakriti in Ayurveda**
- 3. Features of different *Prakriti***
- 4. Applied aspect of *Prakriti***
- 5. Summary**

1) Introduction

In Ayurveda, the traditional health care system, Empirical knowledge derived from long term studies based on observations of natural phenomena forms the basis of treatment of Ayurveda. This knowledge is timeless and unbounded as a result it has retained its relevance over centuries. In India, Ayurvedic thoughts and methods have had deep impact on the all realm of life of people which is reflected in day to day practices like use of medicinal ingredients in traditional cuisine, indian lifestyle and in the form of religious rituals and culture.

Before going on to the topic, let us revise what we have learnt in the previous module.

The goal of Ayurveda is maintenance of health in healthy individuals and alleviation of disorders in diseased individual.

Ayurveda is distinctly different from biomedicine as it does not adopt structural view rather it considers life as a complex interrelationship of *Tridosha* viz. *Vata*, *Pitta* and *Kapha* and adopts distinct approach in dealing with the human body in an integrated and holistic way. In sequence of gradual modification in fundamental science in present perspective, it has being considered that two concepts of quantum physics -interconnectedness and the role of consciousness are practically applied in Ayurveda.

The basic tenets of Ayurveda is that man is the epitome of the universe. Ayurveda defines health as a state of physical, psychological, social and spiritual well being and is based on the theory of *Panchamahabhuta* (the five basic elements – Space, Air, Fire, Water and Earth) and *Tridoshas* which are present in each and every cell of the body along with mind and spirit.

The *Tridosha* theory of Ayurveda offers a practical method to sustain the relation between individual and the universe. The three doshas are interrelated to each other and forms a complex functional network for maintaining homeostasis. Consciousness is an integral part of health in Ayurveda and complete balance of body, mind and soul is defined as health.

In light of modern science, based on the most recent understanding of Ayurvedic *Tridosha* theory, *doshas* are considered to be concerned with organism regulations involving input/output,

turnover, and storage. According to this understanding, *doshas* are universal bioentities regulating functions identified as fundamental by systems theory: input and output (*Vata*), throughput or turnover (*Pitta*), and storage (*Kapha*).

Even though all living being are made up of five basic element, we see a lot of diversities with no two people being alike. **Have you wondered why two peoples are not alike? Even the identical twins are not similar in all aspects. What is it that makes an individual distinct from others?**

The way we are physically, the way we behave, the way we reacts to certain conditions; that is called our nature. These all are to a great extent influenced by our '**constitution**'. we can call it **biological constitution** or **genetic constitution**. According to *Charak samhita*, which is one of the most ancient Ayurvedic text "*Every organism is different from another and hence should be considered as a different entity. As many variations are there in the universe, all are seen in humans*". It means every individual is unique having different constitution. So, concept of *prakriti* based on *tridosha* theory been described in Ayurveda which emphasizes on the treatment of disease in highly individualized manner.

2) *Prakriti* in Ayurveda

2.1. *Prakriti* is a fundamental construct of Ayurveda, which primarily mean a body type or individual nature. *Prakriti* is the sense of personality or constitution or temperament of an individual. *Prakriti* is manifested in form of physical, psychological, physiological and behavioural traits. *Prakriti* provides the genetic and epigenetic basis to the human morphological and biological variations. Before proceeding, we should try to understand **why knowledge of prakriti is important?**

The importance of *Prakriti*-based medicine lies in:

1. Promotion of health and quality life
2. Prevention of diseases.
3. Understanding patient needs and risk factors for chronic conditions.
4. Personalized health care
5. Management of disease
6. Reduction in morbidity and mortality.
7. Development of new approaches for diagnosis and drug development.
8. Minimizing adverse drug reactions

In Ayurveda, prognosis, diagnosis and therapeutics have been described *prakriti* specific and it have similarities with modern concepts of **pharmacogenomics**.

2.2. Formation of *Prakriti*: The three doshas (humor), five basic elements and three gunas (psychological qualities-Satva, Raja &Tama) exist in every human being. Depending upon their predominance in the gametes at the time of fertilization, an individual's *Prakriti* is determined. The body constitution is fixed at the time of fertilization, generally remains constant throughout the life of that individual. Thus, the *Prakriti* which is the substratum of the Universe is in turn related to the biological constitution of a person. Next we going to discuss about -

2.3. Factors affecting determination of *Prakriti* : At time of conception, *Prakriti* is determined by the predominance of the *doshas* in the gametes(*Shukra Shonita*) and during pregnancy

prakriti is influenced by maternal diet and lifestyle during pregnancy, environment during fetal development. (*Matur-ahar-vihara, Kala Garbhashaya, Mahabhutavikara*)

Genetic constitution is a cumulative effect of race (*Jati-prasakta*), familial predisposition (*Kula-prasakta*), demography, climatic condition, individual personal habits. Every individual is subjected to a constant interaction with the environment, which can affect the person's constitution at any time. The body tries to maintain a dynamic equilibrium with the environment. If the current proportion of our *doshas* gets significantly different from its constitutional proportion, it indicates imbalances, which in turn can lead to illness.

Ayurveda considers mind and body as two aspects of one unity. The psychological and physiological processes interact with one another and parallel to each other.

2.4. Classification of *Prakriti*

Human constitution can be broadly classified into two types- (a)physical (*Deha or Doshaja Prakriti*) and (b)Mental (*Manas Prakriti*). The human constitution is divided into seven types on the basis of relative preponderance of three basic humors viz. *Vata, Pitta, Kapha, Vata-pitta, Vata-kapha, Kapha-pitta* and *Sama/Sannipata*. This inherent predominance of *dosha* imparts the person with peculiar physical, physiological and anatomical features. Three broad types of mental constitution viz., *sattvika, rajasika* and *tamasika prakriti*.

The *dosha*, indicated by their presence by the functions and the associated properties, exist at all levels - from macroscopic to the cellular level. Just as functions include structures, *dosha* also encompasses structural entities. This can be inferred from the physical attributes associated with *doshas*. The three *doshas* are constituted of *Panchamahabhuta*. Properties of space & air are represented as *Vata* in the body. Properties of fire and water is referred as *Pitta* and properties of water and earth are represented in the body as *Kapha*.

In Ayurvedic texts, the characteristic features of all seven types of physical and three types of mental constitution have been explained but only three main types of *Prakriti* viz., *Vata* predominant, *Pitta* predominant and *Kapha* predominant constitution are usually taken for the examination of a person/patient.

- 2) **Features of different *Prakriti*** are going to be discussed now. First, we should revise the properties of each *doshas* which are as follows.

Vata Dosha: Dry, cold, light, subtle, mobile, non-slimy and rough in properties

Pitta Dosha: Slightly unctuous, hot, sharp, liquid, sour, mobile, light and pungent smell

Kapha Dosha: Heavy, cold, soft, unctuous, sweet, stable and slimy

Based on characters of *doshas*, phenotypes of three contrasting constitution (*doshaja prakriti*) has been described here separately .

3.1. Features of *Vata Prakriti* : Due to the qualities of *Vata*, the *Vata Prakriti* individuals have the following features.

	Properties	<i>Vata</i>
--	------------	-------------

1.	Roughness	Underdeveloped and short body, rough voice, weak, low, pathetic in appearance, hoarse and obstructed and less sleep.
2.	Lightness	Light and unsteadiness in movement, activities, diet and speech.
3.	Mobility	Unstable joints, eye brows, jaw, lips, tongue, head, shoulder, hand and feet talkativeness and abundance of tendons and veins
4.	Swiftness	Quick in initiating actions, irritation and disorder, quick in fear, early attachment and disenchantment, understanding is quick but with poor memory (retention).
5.	Coldness	Intolerance to cold, gets afflicted with shivering and stiffness on exposure to cold.
6.	Non- sliminess	cracked body parts and constant sound in joint during movement

Because of the presence of these qualities the individual having predominance of *Vata* has mostly low degree of strength, lifespan, progeny and wealth.

3.2.Features of *Pitta Prakriti* : Based to the qualities of *Pitta*, *Pitta Prakriti* individuals have the following features:

	Properties	Features
1.	Hotness	Intolerance to heat, having hot face, delicate and fair organ plenty of moles, freckles, black moles and pimples, excessive hunger and thirst, early appearance of wrinkles, greying and falling of hairs.
3.	Sharpness	sharp prowess, intense fire (digestive power), taking plenty of food and drink, lack of endurance, frequently eating
4.	Liquidity	lax and soft joints and muscles, excess excretion of sweat, urine and feces
5.	Fleshy smell	fleshy smell in axilla, mouth, head and body.
6.	Pungency and sourness	little semen, sexual act and few progeny

Because of the presence of these qualities the individuals having predominance of *Pitta* are of moderate in strength, lifespan, knowledge, understanding, wealth and means. Hence this *Prakriti* is moderate type.

3.3.Features of *Kaphaja Prakriti*:

Due to the qualities of *Kapha*, ***Kaphaja Prakriti*** individuals have the following features:

	Properties	Features
1.	Unctuousness	Unctuous organs.
2.	Softness	attractive; tender skin, organ and musculature
3.	Sweetness	abundant semen, potency and more number of progeny.
4.	Nature of essence	strong sturdy body and organs.
5.	Solidity	Well formed and fully developed
6.	Dullness	slow in their eating, in behaviour and working.
7.	Rigidity	do not take hasty steps in their works and will not get disheartened.
8.	Heaviness	firm and strong in their movements.
9.	Coldness	less hunger, thirst, heat and perspiration.
10.	Sliminess	compact and strong joint, ligaments.

Due to these best qualities, the *Kaphaja Prakriti* individuals are blessed with best strength, wealth, education, vitality, immunity and longevity and they are of peaceful nature. Therefore, this *Prakriti* is praised as best *Prakriti*.

3.4. Assessment of *Prakriti*: In classical Ayurvedic texts, guidelines for *Prakriti* assessment has been described elaborately. Most people are having combination of two *Dosha* i.e. *Dwandaja prakriti*. They possess characteristics of both *Dosha* that are dominant. A balanced constitution is ideal and extremely rare in which the balanced state of all the three *Dosha*. Key distinguishing features of single *Vata*, *Pitta* and *Kapha Prakriti* are described here.

First let us start with anatomical features

Anatomical features	<i>Vata prakriti</i>	<i>Pitta prakriti</i>	<i>Kapha prakriti</i>
Body built	Thin, lean, slender, under developed, long or short, disproportionate, lustre less body with prominent veins and tendons.	Good looking and delicately shaped	Well formed, proportionate, compact, glossy body with stable movement and majestic gait.
Joints	Unstable, stiff joints with crackling sounds.	soft and loose joints, muscles and limbs	Strong, well hidden joints

Anatomical features	<i>Vata prakriti</i>	<i>Pitta prakriti</i>	<i>Kapha prakriti</i>
Body organs	short/ less/thin/cracked, stiff, dry, rough organs.	coppery nails, eye, palate, tongue, lips palm and soles	Compact, firm and full grown organs, long arms, big and elevated chest, wide forehead
Skin	Dry, rough, cracked and cold skin with dark, brownish, black, grey or dusky complexion.	Warm, soft, delicate, sensitive skin with freckles and moles, wrinkled skin with fair, reddish, yellowish or pinkish complexion	Smooth, moist, cold, non wrinkled or glossy, oily skin with light, clear and whitish complexion
Hair	Thin, scanty, less, dry, rough, cracked with split ends.	Thin, fine, oily blonde or red, early greying	Thick, glossy, firmly rooted, wavy and bee-black hair
Eyes	Dry, unsteady and blinking	Sharp and penetrating with blonde or copper eye lashes; eyes easily becomes red and desirous of cold	Large, attractive and full with thick eye lashes, moist and pleasant eyes
Lips	Dark, dry, cracked	soft, pink, copper coloured	Full, thick moist and oily
Teeth	Small, crooked, easily cracked	Moderate size, yellowish	Strong, large, white

Assessment of physiological characteristics of different Prakriti is as follows-

Physiological features	<i>Vata Prakriti</i>	<i>Pitta Prakriti</i>	<i>Kapha Prakriti</i>
Appetite for food and digestion	Inconsistent, varies between strong and weak	Intense , cannot skip the meal	Weak and slow digestion, can skip meal
Diet habits	Irregular diet habits and likes	Eats too often and too much	Regular eating habits and likes, slow food intake
	Likes unctuous, hot, sweet, sour, salty foods	likes sweet, bitter, astringent and cold foods and drinks	Likes sweets
Tastes desired	Sweet, salt and sour	Sweet, bitter and astringent	Pungent, astringent and bitter

Physiological features	<i>Vata Prakriti</i>	<i>Pitta Prakriti</i>	<i>Kapha Prakriti</i>
Thirst & perspiration	Variable	Excessive and intense	Less
Bowel habit	Constipated bowel	Loose stools, Excessive sweating and urination	Normal steady evacuation
Vigour	Lesser quantity of strength and procreation	Insufficiency of semen, sexual desire and procreation	great vigour, sexual prowess, desire in tastes; more of semen, children and attendants
Sleep (amount & quality)	Interrupted and less, shallow, eyes half open during sleep	Moderate /sound	Excessive and deep sleep
Body odour	Mild/variable	Strong	Very less
Physical activity & movements	Very quick with swift movements	Moderate	Slow and steady gait and activities
Voice	Low, hoarse voice	high-pitch, commanding	Pleasant voice
Tolerance for seasonal variation	Intolerant to cold climate	Intolerant to hot climate	not much bothered
Weight gain	Difficulty in gaining	Gain and loose easily	Tendency to obesity
Body temperature	Low / variable	High	Low
Ageing	Fast	Moderate	Slow

Higher mental functions in different prakriti individuals are as follows-

Initiation capabilities	Quick, responsive and enthusiastic	Moderate, upon conviction and understanding	Slow to initiate new things
Speech	Talkative	Authoritative, contending debater	Calm and quiet
Memory	Quick at grasping Poor retention	Moderate in grasping and retention	Slow in grasping Good retention
Disease tendency	Catches diseases very easily	Moderate resistance	Good resistance

Disease susceptibility	Lower	Moderate	High
-------------------------------	-------	----------	------

3.5. *Manas Prakriti*:

The profunder of *Ayurveda* have clearly recognized the distinction in human temperament and individual differences in psychological and moral disposition, his reaction to socio-cultural and physical environment. The study of human personality in classical ayurvedic literature is nearly dependent upon *darshana Sankhya*-concept of personality. '*Trigunas*' i.e. *Sattva*, *Raja* and *Tama* are three potentialities, which express themselves only when in imbalanced state.

Type of *Sattva* and their individuality:

Sattva is of three types based on *Triguna – Sattvika, Rajasa, Tamasa*. Among '*Trigunas*', *Sattvika* is without any defect due to more portion of welfare. It is pure and fine and responsible for goodness and happiness. '*Rajasa*' is with defect due to more portion of anger and it is responsible for all activities. '*Tamasa*' is also with defect due to more portion of ignorance. It is solid and resists activity produces state of apathy.

Type of *Manas Prakriti*:

Individual temperament can be explained as trio of *Satva, Raja* and *Tama*. Due to the interplay of these three '*Gunas*', the persons differ in their affective and cognitive aspects. Human temperament has been divided into three major groups, *Sattvika, Rajasika* and *Tamasika*, with a relative predominance of *Satva, Raja* and *Tama* characteristic in their psyche. These three major temperament groups are again subdivided into subgroups viz. seven of *Sattvika*, six of *Rajasika* and three of *Tamasika*..

Characteristics of *Sattvika* Temperament: Companion, tendency to proper distribution, forgiveness, truthfulness, righteousness, faith, knowledge, intellect, retentive faculty of mind, memory, restraint and non-attachment are *Sattvika* qualities .

Characteristics of *Rajasika* Temperament: Mostly unhappiness, roaming about, impatience, ego, falsehood, cruelty, fraudulence, naughtiness, exhilaration, lust and anger are *Rajasa* qualities.

Characteristics of *Tamasika* Temperament: Sadness, tendency to unrighteousness, blocking of intellect, ignorance, wickedness, inactivity and sleepiness are *Tamasa* qualities.

4) Applied aspect of *Prakriti*

Prakriti has leading importance in both healthy and diseased persons. Importance of *Prakriti* lies in prescribing dietary regimen and life style management in healthy individuals of different Knowing one's *Prakriti* hold the key to health, wellness and longevity. Implication of *Prakriti* assessment can be understood under the following headings:

4.1.Role of *Prakriti* in preventive & promotive healthcare and maintenance of health: We can assess status of health, such as strength (physical and mental), appetite, adaptability, compactness of body, etc. on the basis of one's *Prakriti*. *Prakriti* helps in analyzing and observing dietary habits, lifestyles, daily and seasonal regimens etc suitable according to

individual. By adopting healthy dietary habits and healthy lifestyle in the reference of *Dincharya* and *Ritucharya*, we can prevent various disorders and proper health can be promoted. The objective of health promotion and prevention of diseases is achieved by both *Prakriti* based medicine and personalized medicine. Such diet or behaviour should be avoided which has taste and qualities that vitiates the *doshas* and should adopt the one which mitigates the imbalanced *dosha*, so that their equilibrium is maintained in the body.

Dosha	Elements	Dosha aggravating qualities & taste	Dosha mitigating qualities & taste
Vata	Space + Air	Light, Quick, Dry, Rough, Cold, Subtle, Coarse, Moving Bitter, Astringent, Pungent	Oily, Heavy And Hot Sweet, Sour
Pitta	Fire + Water	Hot, Sharp, Oily, Light, Liquid, Fluid Sour, Salty, Pungent	Cold and Dry Sweet, Bitter,
Kapha	Fire + Water	Heavy, Slow, Oily, Cold, Soft, Immobile, Slimy Sweet, Sour, Salt	Light, Dry, Hot Pungent, Bitter

By following the basic guidelines, we can prevent various disorders and health can be restored. .
Yoga and *Pranayama* helps in attaining sound mental health.

4.2. Prakriti and dietary habits: As per Ayurveda, the appropriate quantity of diet for an individual is the one which when taken does not harm the prakriti(constitution) and gets digested within due time. The quantity of diet depends upon digestion power (agni) . *Agni* (metabolic fire) depends upon constitution of the individual. *Sama prakriti* individuals have *Samagni*(regular). In *Vata* individual digestion power is irregular as they irregular *agni* (*Vishamagni*).Less quantity of diet is required to be given to such individual frequently. *Pitta* individual has sharp digestive fire (*Tikshnagni*) which digests all types of diet, hence more quantity and heavy diet is required to be given to them. *Kapha* constitution has slow digestive power (*mandagni*) which is not able to digest all types of diet, hence light and lesser amount of diet should be given to such individuals.

4.3. Prakriti and disease susceptibility: Persons having balanced constitution (*Sama prakriti*) has good resistance and generally not prone to diseases. Other types are labelled as *Aatura* (diseased), as they have dominance of one or more *Dosha* and need regular preventive measures. Out of rest six types, *Prakriti* with one *Dosha* have better resistance than two *Dosha Prakriti*. *Vata*, *Pitta* and *Kapha Prakriti* are susceptible to disease in decreasing order.

If the daily activities, diet, occupation and behaviour are not adjusted according to *Prakriti*, then the constitutional humor gets imbalance and give rise to its characteristic diseases. It is also described in Ayurveda that *Vata* constitution persons are more prone to *Vata* disease like neurological diseases, dementia, movement and speech disorders, arrhythmias while *Pitta* constitution are more prone to *Pitta* diseases like ulcer, bleeding disorders, skin diseases. That's why a person should adhere to the suggestions and rules regarding food and lifestyle according to their body constitution.

4.4. Role of *Prakriti* in diagnosis: *Prakriti* is important diagnostic tool, forming basis for understanding pathology, extent and combinations of vitiated *dosha* and status of host factors.

4.5. Role of *Prakriti* in prognosis: *Prakriti* is important for judgment of prognosis of disease. Prediction of proneness and severity of disease can be speculated which helps in prognosis judgment. If nature of disease and *Prakriti* of individual are similar then disease is difficult to manage. When *prakriti* and diseases are of different origin, it is easy to manage and generally carries good prognosis

4.6. Role of *Prakriti* in therapeutics: After considering the *prakriti* health status of a person is defined and it forms the base of treatment. Thus if the constitution of an individual is known then medication, diet and other regimens can be advised accordingly, both for disease treatment and to promote longevity. The treatment of disease is highly individualized in Ayurveda according to

Prakriti types which is based on the theory of *tridosha*. The modalities related to diet, lifestyle and medicine have been described which forms the three pillars of *prakriti*-based medicine. This unique approach can play a vital role in this changing scenario of global health care

5) Summary

Prakriti refers to genetically determined physical and mental constitution of an individual. Ayurveda system of health care knowledge of *prakriti* and the provision to subgroup individuals based on their predominant *prakriti*, is one of its important and unique specialties. The determination of constitution type or *prakriti* of a person is very important tool in the practice of *Ayurveda*. It not only helps to understand the mental and physical nature of a person in health but also to know the susceptibility to diseases which assists in promotion of health, prevention and treatment of diseases. Thus we can conclude that, knowledge of *prakriti* is the key to health, harmony, happiness and ultimately our true well being.