A REVIEW ON HOMEOSTASIS IN AYURVEDA

1*Dr. Piyush Versha and 2Dr. Shaveta Sawhney

1,2Assistant Professor, Dept. of Kriya Sharir; Patanjali Ayurvigyan Evam Anusandhan Sansthan, Haridwar, Uttarakhand.

ABSTRACT
In Ayurveda equilibrium state of Dosa, Dhatu, Mala and Agni are considered as healthy state of an individual. Homeostasis of an individual also represents his / her healthy state. Unbalanced state of all these are considered as pathological state or disease. In this universe everybody aims for a long life. Ayurveda is the science, which gives the knowledge about life along with the definition of life, explanation of joyful and miserable life, constructive and destructive life, long and short spans of life as well as their qualities and action. For the longevity of healthy life maintenance of equilibrium state (homeostasis) is necessary.

KEYWORDS: Prakriti, Dosha, Dhatu, Dhatusamya, Samyavastha, homeostasis, equilibrium.

INTRODUCTION
Health is a result of a regulatory system that maintains an internal homeostasis (balance). Every living organism must have functional control systems to maintain homeostasis. To remain healthy the internal world is in a continual state of change and regulation, making efforts to return to balance. Each organism regulates information coming in and going out, controls energy metabolism and management, as well as directing energy storage within its corporal structure.

Ancient science reduces all matter to five elements i.e. Panch Mahabhuta, which are the framework of nature viz Aakash, Vayu, Agni, Aap, Prithvi. These elements combine in different proportions to make up the material universe and human being is the perfect example of universe.
There are six elements (Shaddhatu) responsible for the existence of both human (internal environment) as well as the universe (external environment). The two environments reciprocally influence each other and constant exchange of materials take place between them so that equilibrium i.e. homeostasis is maintained. Health and disease depends upon the capability of man to adjust oneself according to environment. Therefore it is fundamental to know how the homeostasis of different physiological variable is achieved and how the abnormality in these homeostatic regulations leads to various dysfunctions.

**DISCUSSION**

The term homeostasis was coined by American psychologist Walter Cannon where homoios means like and stasis means standing still. It describes the phenomenon of the constancy of the internal environment. The capacity of self regulation is the cause for maintenance of steady states in the body, which occurs due to coordinated integration of various physiological mechanisms. Abnormal deviation from these homeostatic processes leads to bodily dysfunction.

Modern science explains homeostatic imbalance as the failure of body to maintain homeostasis which is the starting point of disorders and diseases in the body, caused by factors like stress, alcohol consumption, altered eating habits, sleeplessness, hypoxia, over exercise and dehydration. Due to these factors the control centre fail to interpret the signal or send inappropriate signals to effectors or the effectors fail to act accordingly to central command. It results in homeostatic deficiency and development of disorders and diseases like
gout, acidosis, diabetes mellitus, infections, poisoning, hypoglycaemia, dehydration, hypertension etc.

Ayurveda relies on the concept of “Yat Pinde Tad Bramhande” quoted in Vedant Darshan, means whatever is present inside the body is also found in the universe. External environment (Loka) is formed by the permutation and combination of Pancha Mahabhuta and similarly internal environment (Purush) is also Paanchabhautik, which is self explanatory in the verse Sarva Dravyam Paanchabhautikam (all substances are made up of five eternal substances).

Such connection among two environments is responsible to maintain and re establish Saamyavastha (homeostasis) in body.

The ancient description of the human body as a perfect example of universe implies that his body is also a field of environment and they reciprocally influence each other. Man constitutes his own environment i.e. internal environment and also contributes in creation of this whole universe. When this internal environment is appropriately customized with that of external i.e. the internal environment is at equilibrium state with external environment, the man is said to be in Samyavastha. And any failure in adjustment with external environment leads diseased state i.e. Aswasthavastha.

Acharya Susruta has mentioned Agnishomiyatvam i.e. the life on this universe is maintained because of two factors known as sun, moon which determines the Aagneya and Saumya Guna of universal matter. Vayu due to its mobile nature alter the Bala of sun and moon, thus influence their Gunas. All these three significantly affect the variations in Kala or time and Ritu or seasons. Sun is absorbing in nature, moon is nourishing and strengthening in nature. Vayu or air brings about movements. In similar manner body is sustained by functional triad called Vata, Pitta and Kapha.

Ayurveda defines Garbha as Agnishomiyam. Sperm and ovum are Saumya and Aagneya dominant respectively, and during fertilization Prakriti of the Garbha is formed under the effect of Dosha predominant in Sukra and Shonita. Prakriti means nature or behaviour or personality of an individual which describes the internal environment of human beings. Prakriti of an individual represents the Doshik state of an individual. Ayurveda is actually aimed for maintenance/restoration of Prakriti (Homeostasis). Prakritavashta (physiological state) of an individual is only maintained by the maintenance of homeostatic atmosphere. Prakriti is equilibrium of Dhatus i.e. Dhatusamya while the imbalance state of Dhatus is
known as Vikara or Dhatuvaishamya.\textsuperscript{[7]} The disequilibrium in these Dhatus causes diseased state, so equilibrium (homeostasis) is to be maintained for health.

Apart from the influence of sun, moon and Vayu on the human body, the external environment of man is also constituted by Kala, Artha and Karma. Kala or time, in the present context refers to Ritu or Seasons, and Artha to the objects of the senses, Karma i.e. actions. Seasons are the natural global earth clock and the rhythm of the world. Equinox and solsticte make the two main divisions of the seasons, which further divide into four seasons (spring, summer, autumn, winter) & these four again divided into six. The same seasonal phenomenon is found inside the body of each living being in this world and give the internal seasons.

Table 1: Effect of Ritukala on Tridosha.

<table>
<thead>
<tr>
<th>Dosha</th>
<th>Chaya</th>
<th>Prakop</th>
<th>Prasham</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vata</td>
<td>Grishma (summer)</td>
<td>Varsha (monsoon)</td>
<td>Sharad (autumn)</td>
</tr>
<tr>
<td>Pitta</td>
<td>Varsha (monsoon)</td>
<td>Sharad (autumn)</td>
<td>Hemant (fall winter)</td>
</tr>
<tr>
<td>Kapha</td>
<td>Shishir (winter)</td>
<td>Vasant (spring)</td>
<td>Grishma (summer)</td>
</tr>
</tbody>
</table>

For the maintenance of health Ayurved suggests intake of wholesome food (Hitaahara). While unwholesome food is responsible for ill health. But Aacharya Charak provided reference of Trividh Aayatana (cause) i.e. Kala Viparyaya, Pragyanparadh and Asatmyaindriyarth Samyog for imbalance or pathology in the body due to hypo(Heenayoga), perverse (Mithyayoga) and hyper (Atiyoga) of Kala, Artha and Karma.\textsuperscript{[8]} Charak Sharirsthan explained Kala Samprapti (pathogenesis) where extreme climatic conditions in various seasons and untimely intake of food leads to Kalaj Roga.\textsuperscript{[9]}

Swastha Purusha is the person in whom the functional triad of the body i.e. Vata, Pitta and Kapha are in equilibrium state, whose Agni is in Samavastha (equilibrium state) and the Dhatus or the fundamental and supporting tissues are in equilibrium state, in whom the process of the removal of the waste products from the body is regular and whose Atma (spirit), Indriya (sense organs) and Mana (mind) are peaceful.\textsuperscript{[10]} Hence it can be stated that the physical, mental and spiritual equilibrium of a healthy individual is the index of his happiness, strength, confrontation and capability to adjust him to the ever changing environment.
The most vital principle of Ayurveda is the equilibrium of tissue elements i.e. Dhatusamya. The approach of Ayurveda to treat the disease, aims to maintain this homeostasis or Dhatusamya. To maintain the homeostasis (Dhatusamya) flow of nutrients and elimination of metabolites in Srotamsi should be uninterrupted and clean.

Ayurveda has mentioned Samshodhana and Samshamana Chikitsa by means of which these channels get clean and impurities are removed. Samshodhana is also essential for the maintenance of Dhatusamya during the circadian and seasonal vitiation of the Doshas. The main line of Samshodhana for the disturbances caused by Vata, Pitta and Kapha are the administration of Vasti or medicated enema (i.e., Asthapan and Anuvasana), Virechana or purgation and Vamana or emetics respectively.

The Samshamana or palliative therapy maintains this equilibrium of Doshas and Dhatus by administering proper diet and drug. The Samshamana therapy for these Doshas consists the administration of Taila or medicated oil for Vata, Grita or Ghee for Pitta and Madhu or honey for Kapha. This way of maintaining Dhatusamya (Homeostasis) is called Prakriti Sthapana or re-establishment of normalcy.

Table 2: Dosha and its Chikitsa.

<table>
<thead>
<tr>
<th>Dosha</th>
<th>Samshodhan</th>
<th>Sanshaman</th>
<th>Shaman Rasa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vata</td>
<td>Asthapan or Anuvasan Basti</td>
<td>Taila (oil)</td>
<td>Katu, Tikta, Kashaya</td>
</tr>
<tr>
<td>Pitta</td>
<td>Virechan in Sharad Ritu</td>
<td>Ghrit (ghee)</td>
<td>Katu, Amla, Lavana</td>
</tr>
<tr>
<td>Kapha</td>
<td>Vaman in Vasant Ritu</td>
<td>Madhu (honey)</td>
<td>Madhur, Amla, Lavana</td>
</tr>
</tbody>
</table>

All the physical objects including diet, drugs, tissues of the body are made up of the five basic elements i.e., Panchamahabhut. Whenever any substance with similar Panchabhautik constituent is taken, then the same increases and the reverse decreases. This is known as the theory of the Samanya and Vishesha i.e. homology and heterology.

Ahara or diet is most importance in the Samshodhana. The diet therapy is also based on the principle of Samanya and Vishesha. The Panchabhautika composition of the given Ahara or diet and its Rasa, Guna is directly relevant to the three Doshas i.e. Vata, Pitta and Kapha.

In Ayurveda there is also the description of Rasayana therapy. The Rasayana used in the healthy persons for maintenance and promotion of positive health is known as Kamya Rasayana. Along with this Kamaya Rasayana, there is Naimittika Rasayana also which is used in the management of some specific diseases. All the Rasayana agents have some
Medhakar or brain tonic effect and they improve the mental disorders. There are certain Rasayana drugs which may induce Vamana, Virechana and Swedana Karma in the body and the body gets purified. Vitiated Doshas are expelled from the body. These are called Samshodhana Rasayana. Samshamana group of Rasayana drugs produce Rasayana Prabhava in the body restoring Dosha Samya or internal homeostasis and metabolic constancy in human being which is necessary for health.

CONCLUSION
Above mentioned literature and facts explain that human body maintains homeostasis by returning the altered variables in the body to normal. Various external factors affect the self regulation capacity of body and failure to return to normal homeostasis, leads to development of disorders and diseases.

Universe (Loka) and human (Purush) are formed of Shad Dhatu and five eternal elements i.e. Pancha Mahabhutas due to which they both reciprocally influence each other. Equilibrium state among them i.e. external and internal environment is responsible to maintain and re establish Samyavastha (homeostasis) in the body.

Life on the universe is maintained by Aagneya and Saumya Gunas of sun and moon and Vayu modifies their Bala and Guna due to its mobile nature. Similar phenomenon is goverened by Tridosha(Vata, Pitta, Kapha) in human body. In the internal environment Agnishomiyatvam is also mentioned for Garbha, as Sukra and Shonita are Saumya and Aagneya respectively. Prakriti of the Garbha is determined by the predominant Dosha during the time of fertilization. Prakriti is the physiologiacal and Dhatusamya state which needs to be maintained for health.

Kala Artha and Karma also influence the internal environment as the Kala Viparyaya Pragyanparadh and Asastmyaindriarth Samyog is considered as Trividh Aayatanara of Roga. Kala has influence on the Chaya, Prkop and Prashaman of Tridosha.

Shrotas carry nutrients and waste metabolites due to which Dhatusamya is maintained. Any disruption in these channels causes vitiation of Doshas which is treated by Samshodhan and Samshaman Chikitsa and normalcy is re established.

The diet and drug therapies for Chikitsa is based on Panchabhautik composition of Loka and Purush and follow Saamanya Vishesh principle, hence significant for restoring Vata, Pitta
and *Kapha* in human body. *Ayurveda* provides various *Rasayan* therapy which maintains physical and mental health and also eliminate vitiated *Doshas* from body.

Hence it can be concluded that *Ayurveda* elucidated homeostasis in its literature in context with external and internal environments which exhibits similarity in basic constitutions and facilitate human body self regulate its steady state or *Samyavastha*.

**REFERENCE**


