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DOSHA DHATU MALA MULAM HI SARIRAM AND HOMEOSTASIS: A COMPARATIVE ANALYSIS OF AYURVEDIC AND MODERN PHYSIOLOGICAL PARADIGMS

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ABSTRACT

The classical Ayurvedic concept *"Dosha Dhatu Mala Mūlam Hi Śarīram"* describes that the human body is fundamentally sustained by three essential components—Dosha (functional regulatory principles), Dhatu (structural and metabolic tissues), and Mala (physiological waste products). This concept forms the base of *Kriya Śarīra* (Ayurvedic physiology).[1,2] In modern biomedical science, the principle of homeostasis explains the maintenance of internal constancy through coordinated regulatory mechanisms, ensuring stability of the internal environment.[6,8] Although Ayurveda and modern physiology arise from different conceptual foundations, both frameworks emphasize equilibrium as the basis of health and survival. This review critically examines the Ayurvedic triad and correlates it with the modern physiological concept of homeostasis. The analysis suggests that Doshas may be interpreted as integrative regulatory systems, Dhatus correspond to structural and metabolic substrates, and Malas represent essential excretory mechanisms. Disease manifestation in both paradigms is primarily attributed to disturbance of equilibrium. A

comparative understanding of these concepts may provide scope for integrative physiological research and holistic healthcare strategies.

KEYWORDS: Dosha, Dhatu, Mala, Kriya Śarīra, Homeostasis, Integrative physiology, Ayurveda.

INTRODUCTION

Ayurveda conceptualizes life as an integrated interaction of *Śarīra* (body), *Indriya* (sense organs), *Satva* (mind), and *Ātma* (soul). Among the fundamental physiological doctrines of Ayurveda, the statement.

"दोषधातुमलमूलं हि शरीरम्"

(*Charaka Samhita*, Sūtra Sthāna 1/53)[1,2]

declares that the body is rooted in Dosha, Dhatu, and Mala. This concise aphorism provides a comprehensive physiological framework explaining the structural and functional basis of the living organism.[1] Modern anatomy, often focuses on physical structures, whereas, Ayurveda presents a dynamic model wherein regulatory principles, tissue integrity, and elimination processes coexist in a state of functional interdependence.[3,4]

Modern physiology explains a similar phenomenon through the concept of **homeostasis**, defined as the ability of the organism to maintain stability of the internal environment despite external variations.[6,8] The term was popularized by Walter Cannon in the early twentieth century, building on Claude Bernard's concept of the *milieu intérieur*.[8,9]

This review aims to analyze the Ayurvedic doctrine *Dosha Dhatu Mala Mūlam Hi Śarīram* and explore its conceptual parallels with homeostatic mechanisms described in contemporary physiology.

MATERIALS AND METHODS

This review is based on an analytical study of classical Ayurvedic and modern physiological literature. The sources include primary classical texts such as *Charaka Samhita*, *Sushruta Samhita*, and *Ashtanga Hridaya*, along with relevant commentaries and interpretative works.[1-5] Standard modern physiology textbooks including Guyton & Hall and Ganong were also referred.[6,7]

The methodology adopted is conceptual and comparative analysis. The approach is interpretative and correlational, with emphasis on conceptual parallels without oversimplification or reductionism.

THE AYURVEDIC TRIAD: DOSHA, DHATU AND MALA

1. Dosha: Functional Regulatory Principles

Doshas are not gross anatomical entities; rather, they represent functional principles governing all physiological activities. The three Doshas coordinate systemic regulation and maintain functional harmony.[1,2]

Vāta

Vāta governs movement, neural transmission, respiration, circulation, and locomotion. It is primarily responsible for communication and transport functions within the body.[1,4]

Pitta

Pitta regulates metabolism, digestion, enzymatic activity, and biochemical transformation. It is responsible for thermogenesis and metabolic conversion.[1,4]

Kapha

Kapha maintains structural stability, cohesion, lubrication, and tissue integrity. It also contributes to immunity and anabolic functions.[1,4]

The equilibrium (*sāmya*) of Doshas ensures normal physiological functioning, whereas imbalance (*vaishamya*) initiates pathological processes.[1,2]

2. Dhatu: Structural and Metabolic Tissue System

Dhatus represent the functional tissues responsible for structural support, nutrition, and vitality. Ayurveda describes seven Dhatus formed sequentially through metabolic transformation (*Dhatu Parināma*).[1,4]

The seven Dhatus are

- **Rasa** – nutrient fluid and plasma equivalent
- **Rakta** – oxygenating and circulating tissue
- **Māṃsa** – muscular tissue
- **Meda** – adipose and lipid tissue
- **Asthi** – skeletal framework

- **Majjā** – marrow and nervous tissue support
- **Śukra/Ārtava** – reproductive tissue and essence

Proper formation, nourishment, and maintenance of Dhatus are essential for strength (*bala*), immunity (*vyādhikṣamatva*), and overall vitality.[1,4]

3. Mala: Physiological Waste and Excretory Balance

Malas are metabolic by-products that require timely elimination for the maintenance of internal balance. The principal Malas include

- **Purīṣa** (faeces)
- **Mūtra** (urine)
- **Sveda** (sweat)

Ayurveda recognizes that Malas are not merely waste products but have physiological importance in maintaining systemic stability. Both accumulation (*sañcaya*) and depletion (*kṣaya*) may result in pathological imbalance.[1,3]

HOMEOSTASIS IN MODERN PHYSIOLOGY

Homeostasis refers to the dynamic regulation of the internal environment to maintain physiological stability.[6,7] It includes maintenance of parameters such as

- Core body temperature (~37°C)
- Blood glucose regulation
- Hydrogen ion concentration (pH ~7.35–7.45)
- Fluid and electrolyte balance
- Blood pressure and perfusion regulation

Homeostatic regulation is achieved through coordinated functioning of the nervous system, endocrine system, cardiovascular system, and renal-respiratory mechanisms.[6,7] Negative feedback mechanisms constitute the primary method of homeostatic control, ensuring internal stability despite external variations.[6,7,8]

COMPARATIVE ANALYSIS

1. Dosha and Regulatory Systems

Doshas can be interpreted as representing integrated regulatory networks. Vāta parallels neural transmission, autonomic regulation, circulation, and movement-based physiology. Pitta correlates with metabolic activity, enzymatic reactions, thermoregulation, and

biochemical transformation. Kapha resebles structural maintenance, anabolic functions, lubrication, and immune stability.[1,4,6]

Thus, Doshas can be viewed as a qualitative representation of integrative regulatory physiology.

2. Dhatu and Tissue Homeostasis

Modern physiology recognizes continuous tissue remodeling, cellular turnover, and metabolic renewal.[6,7] The Ayurvedic concept of *Dhatu Parināma* mirrors these physiological processes of transformation and nourishment.[1,4]

Both systems emphasize that sustained tissue integrity depends upon proper nutrition, metabolic conversion, and cellular regeneration.[6,7,11]

3. Mala and Excretory Homeostasis

Modern physiology explains that waste elimination through gastrointestinal, renal, respiratory, and integumentary systems is essential for maintaining biochemical equilibrium.[6,7,11]

Similarly, Ayurveda identifies improper Mala elimination as a primary factor contributing to systemic disturbance, emphasizing the role of excretory balance in health preservation.[1,3]

PATHOGENESIS: DISTURBANCE OF EQUILIBRIUM

From an Ayurvedic perspective, disease development follows a sequence wherein Dosha vitiation leads to Dhatu impairment and Srotas dysfunction, ultimately manifesting as clinical disease (*vyādhi*).[1,2]

In modern physiology, regulatory failure leads to cellular dysfunction, organ pathology, and clinical disease manifestation.[6,7]

Both paradigms indicate that functional imbalance precedes structural pathology, highlighting the importance of early correction of disturbed equilibrium.

PREVENTIVE PHYSIOLOGY AND MAINTENANCE OF BALANCE

Ayurveda emphasizes preventive measures through *Āhāra* (dietary discipline), *Vihāra* (lifestyle regulation), *Dinacharyā* (daily regimen), and *Ritucharyā* (seasonal adaptation).[1,4]

Modern preventive medicine similarly highlights balanced nutrition, physical activity, stress management, environmental adaptation, and lifestyle interventions for maintenance of health.[6,7,11]

Thus, both systems aim at preserving internal equilibrium as a primary strategy for health maintenance.

DISCUSSION

Although Ayurveda and modern physiology differ in terminologies and methodologies, their conceptual foundation demonstrates convergence in several aspects. Both recognize the organism as a self-regulating system and emphasize dynamic equilibrium rather than static stability.[1,6,8] Both attribute disease development to disturbance of regulatory balance.[1,6]

Ayurveda provides a qualitative systemic model based on functional principles, whereas modern physiology provides quantitative mechanistic explanations supported by experimental evidence.[6,7] Rather than being contradictory, these systems may be considered complementary in understanding human physiology from a broader perspective.

An integrative interpretation may enhance interdisciplinary research, promote holistic understanding, and strengthen the physiological basis of Ayurveda in academic discourse.

CONCLUSION

The Ayurvedic doctrine *"Dosha Dhatu Mala Mūlam Hi Śarīram"* represents a comprehensive physiological framework describing regulation, structural integrity, and waste elimination.[1,2] The modern concept of homeostasis similarly explains internal stability through coordinated regulatory mechanisms.[6,8]

Both paradigms affirm that

Health = dynamic equilibrium

Disease = disturbance of internal regulation

Bridging Ayurvedic and modern physiological principles may strengthen integrative research approaches and contribute to the development of holistic healthcare strategies.

REFERENCES

1. Sharma RK, Dash B. **Charaka Samhita of Agnivesha (Text with English Translation and Commentary)**. Vol 1. Sutra Sthana. Varanasi: Chaukhambha Sanskrit Series Office; Reprint edition: 41.
2. Acharya YT, editor. **Charaka Samhita of Agnivesha with Ayurveda Dipika Commentary of Chakrapani Datta**. Reprint ed. Varanasi: Chaukhambha Surbharati Prakashan; 2017. Sutra Sthana 1/53.
3. Acharya YT, editor. **Sushruta Samhita of Sushruta with Nibandha Sangraha Commentary of Dalhana**. Reprint ed. Varanasi: Chaukhambha Surbharati Prakashan; 2014.
4. Murthy KRS. **Ashtanga Hridayam of Vagbhata (Text, English Translation and Commentary)**. Vol 1. Sutra Sthana. Varanasi: Chowkhamba Krishnadas Academy; 2012.
5. Tripathi B. **Ashtanga Hridayam of Vagbhata with Hindi Commentary**. Reprint ed. Varanasi: Chaukhambha Sanskrit Pratishthan; 2016.
6. Guyton AC, Hall JE. **Textbook of Medical Physiology**. 14th ed. Philadelphia: Elsevier; 2021.
7. Barrett KE, Barman SM, Brooks HL, Yuan JXJ. **Ganong's Review of Medical Physiology**. 26th ed. New York: McGraw Hill; 2019.
8. Cannon WB. **The Wisdom of the Body**. New York: W.W. Norton & Company; 1932.
9. Bernard C. **An Introduction to the Study of Experimental Medicine**. New York: Dover Publications; 1957.
10. Hall JE. Homeostasis: regulation of internal environment. In: Guyton AC, Hall JE. **Textbook of Medical Physiology**. 14th ed. Philadelphia: Elsevier; 2021; 3–8.
11. Sherwood L. **Human Physiology: From Cells to Systems**. 9th ed. Boston: Cengage Learning; 2016.
12. Tortora GJ, Derrickson B. **Principles of Anatomy and Physiology**. 15th ed. Hoboken: Wiley; 2017.
13. Sharma PV. **Dravyaguna Vijnana (Ayurvedic Pharmacology and Materia Medica)**. Vol 1. Varanasi: Chaukhambha Bharati Academy; 2013.
14. Lad V. **Textbook of Ayurveda: Fundamental Principles**. Albuquerque: The Ayurvedic Press; 2002.
15. Dash B. **Fundamentals of Ayurveda**. New Delhi: B. Jain Publishers; 2004.