CRITICAL ANALYSIS ON PHYSIOLOGY OF REFLEX MECHANISM WSR TO VATA DOSHA

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ABSTRACT

Background: The word Vata derived from the verbal root ‘Va’ meaning is Gati and Gandhana. Vatais responsible for Gati (movement), Jnana (knowledge or perception) and Prapti (obtaining or receiving).
Aims and Objectives: To critically analyze the physiological points emphasized in the derivation of Vata Dosha by considering the reflex action.
Materials and Methods: The Ayurvedic classics were scrutinized regarding the references for derivation of Vata Dosha. Later, physiologico-anatomical aspects of the reflexes were studied from modern physiology books. Later, supportive correlation was done between Ayurvedic and modern views to build valid and reliable hypothesis regarding derivation of Vata dosha in relation to the various anatomical and physiological aspects of the reflexes.
Discussion and Conclusion: Physiological importance is emphasized in the word Gamana, Gnyana, Prapti. Prapti refers to physiology of receiving the impulses from the stimulus and receiving the motor response by the effector organ. Gamana refers to movement of impulses from sensory nerve to center and from the center to effector organ even it signifies the motor response generated in effector organ. Gnyana refers to perceiving of the sensory impulses and generating appropriate response by the center.
Keywords: Gamana, Gnyana, Prapti, Reflex, Physiology.

INTRODUCTION

An individual is an archetype of the universe. All the material & phenomenon of the universe are present in an individual. Similarly all those present in the individual are also enclosed in the universe¹. The five basic elements exist in all matter. Water provides the classic example: - the solids of iced water are manifestation of the Prithvi Mahabhuta (earth principle). Latent heat in the ice (Agni) liquefies it, manifesting into Jala Mahabhuta (water principle). And then eventually it turns into steam expressing the Vayu Mahabhuta (air principle) the steam disappears into Akasha or space². Bhuta is that which is not born out of something, but out of which something is born. It is the material cause of substances in the world. When we say Bhuta we mean that subtle level of existence, where as Mahabhuta refers to gross level of existence³.

Panchikarana is the process through which invisible Bhutas combine with each other and form the visible Mahabhutas in such a way that all Bhutas are present together in each Drisya Bhuta in varying degrees of predominance. Thus in the physical world everything is a combination of Pancha Mahabhutas & we cannot see them independently⁴. Thus the five basic elements Akasha, Vayu, Teja, Jala And Prithvi are present in one substance. This proves that all five elements are present in all matter in the universe. Visualization of the identity of the individual with the universe paves the way for salvation. The body is described as the modified form of Mahabhutas hence the description of the identity of the individual & the universe relates to Mahabhutic composition only. The multitudes of the human features are ascribed to the proportion of different Bhutas each of different nature⁵.

The balance of Dosha represents the healthy state and imbalance will cause various diseases. In normalcy Doshas will be performing their own functions and individual Doshas will be having their own specific sites. The word Vata derived from the verbal root ‘Va’ meaning is Gati and Gandhana. Vata is responsible for Gati (movement), Jnana (knowledge or perception) and Prapti (obtaining or receiving)⁶. Word meaning of Vata

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in derivation suggest the physiological functioning of Vata in the body in different dimensions. Brief Physio-anatomical understanding of the reflex action is necessary to understand physiological points emphasized in the derivation of Vata Dosha. Reflex activity is the response to a peripheral nervous stimulation that occurs without our consciousness. It is a type of protective mechanism and it protects the body from irreparable damages. For example, when hand is placed on a hot object, is withdrawn immediately. When a bright light is thrown into the eyes, eyelids are closed and pupil is constricted to prevent the damage of retina by entrance of excessive light into the eyes. Reflex arc is the anatomical nervous pathway for a reflex action. A simple reflex arc includes five components. Receptor is the end organ, which receives the stimulus. When receptor is stimulated, impulses are generated in afferent nerve. Afferent or sensory nerve transmits sensory impulses from the receptor to center. Center receives the sensory impulses via afferent nerve fibers and in turn, it generates appropriate motor impulses. Center is located in the brain or spinal cord. Efferent or motor nerve transmits motor impulses from the center to the effector organ. Effector organ is the structure such as muscle or gland where the activity occurs in response to stimulus. Afferent and efferent nerve fibers may be connected directly to the center. In some places, one or more neurons are interposed between these nerve fibers and the center. Such neurons are called connector neurons or internuncial neurons.

AIM AND OBJECTIVES
To critically analyze the physiological points emphasized in the derivation of Vata Dosha by considering the reflex activity.

MATERIALS AND METHODS
The Ayurvedic classics were scrutinized regarding the references for derivation of Vata Dosha. Later, physiologico-anatomical aspects with reference to reflexes were studied from modern physiology books. Later, supportive correlation was done between Ayurvedic and modern views to build valid and reliable hypothesis regarding derivation of VataDosha in relation to the various anatomical and physiological aspects of the reflexes.

DISCUSSION
Reflex arc is the anatomical nervous pathway for a reflex action. A simple reflex arc includes five components. Receptor is the end organ, which receives the stimulus. When receptor is stimulated, impulses are generated in afferent nerve. Afferent or sensory nerve transmits sensory impulses from the receptor to center. Center receives the sensory impulses via afferent nerve fibers and in turn, it generates appropriate motor impulses. Center is located in the brain or spinal cord. Efferent or motor nerve transmits motor impulses from the center to the effector organ. Effector organ is the structure such as muscle or gland where the activity occurs in response to stimulus. Afferent and efferent nerve fibers may be connected directly to the center. In some places, one or more neurons are interposed between these nerve fibers and the center. Such neurons are called connector neurons or internuncial neurons.

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