



A Critical Review of Stress and its Effect on Agni and Associated Metabolic Disorders

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Review Article

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Abstract

In day-to-day life, people face many types of personal and social stress. In Ayurveda, stress can be correlated with chinta, and dhyan. The appropriate level of stress motivates to complete the task but chronic stress can cause serious mental and physical illness. Acute stress on the one hand is usually associated with diet suppression and weight loss. Hypothalamic - pituitary - adrenal axis and corticotrophin-releasing hormone (CRH) may partially explain the anorexic effects of acute stress. CRH stimulates the sympathetic nervous system and releases catecholamine, and in the condition of hypophagia and weight loss, has an effect on the liver and white and brown adipose tissue. On the other hand, prolonged stress can lead to overeating (Especially delicious food), increase intestinal excitability, and Weight gain. In Ayurvedic texts, 13 types of Agni are explained and jathragni Agni is responsible for digestion. Many research shows that people with anxiety are prone to GERD, heartburn, or acid indigestion. In Metabolic disorders metabolic process may be impaired due to enzyme insufficiency, nutrition deficiency, dysfunction of organs like the liver, pancreas, endocrine gland, genetic factors, and sometimes due to stress. This review article is in order to correlate stress, Agni, and metabolic disorder.

Keywords: Stress; Metabolic Disorder; Agni

Introduction

Stress can be defined as the force acting against some resistance [1]. In the era of the 21st century almost everyone is going through some kind of stress it may be due to feelings of competition, workload, loss of jobs, death of a loved one, accident, etc. Higher and long-term stress may cause many disorders such as obesity, heart disease, diabetes, gastrointestinal disorders, etc. A metabolic disorder is a cluster of the same disorders such as cardiovascular disorder, insulin resistance, diabetes mellitus, and vascular and neurological complications. In Ayurveda, the

metabolic disorder can be correlated with santarpana and aptarapana janya vyadhi. According to acharya vagbhat the manifestation of all disorders occurs due to mandagni. Stress affects the GI system through the gut-brain axis and causes enzyme impairment which again leads to abnormal chemical reactions and the body's metabolism gets disturbed. This concept is explaining the Ayurveda quote quoted by acharya charak in which they say if even the food is wholesome and taken in an inappropriate quantity but still, it may cause indigestion due to psychological factors such as chinta, shoka, bhaya, krodh, etc.

Agni is the prime concept of Ayurveda; it plays a significant role to maintain homeostasis, functioning, and metabolism. The importance of agni can be understood by the verse shanteagnau mriyate yukte chiram jivatyanaamya [2]. Ayu (life span), vrana (complexion), bala (strength), swasthya (health), utsaha (excitement), upachayau (anabolism & catabolism), prabha (lusture), Oja (immunity), teja, etc. all depends on dehaagni [3]. Importance of agni can be predicted by the etymology of the word kayachikitsa which literary signifies the treatment of biological fire [4]. In bhagwat geeta there is the verse where lord Krishna says aham vaishvanaro bhutva, here agni is referred to as God [5]. Even acharya says that if a person gets diseased the root cause of the disease will be agni only so agni plays an important role in disease manifestation and also in treatment, one should choose appropriately suitable treatment for any disorder. The food that nourishes our body, gets converted into the biological form through thirteen attributes of agni. To get proper benefits of food it is mandatory that it should be in the proper amount and should be taken with good psychological status. Grief, fear, anger, sorrow, and stress hamper digestion of even wholesome food.

Aim

To visualize the effect of stress on Agni and metabolism.

Material and Methods

All Ayurvedic samhitas and commentaries were searched. Contemporary information was collected from modern books, journals, and authenticated websites on the internet.

Review of Literature

Ayurvedic samhitas are great textbooks for medicine but the deep and hidden meanings of these samhitas and their concepts are tough to understand that's why acharya explained the concept of tantra yukti. There are two prayojanas for tantra yukti one is vakya yojana and another is arth yojna [6]. Here tantra yukti is a tool to know whether there is any relation between stress, agni, and metabolic disease. The stress can be correlated with dhyan, chinta in ayurvedic samhitas. While explaining the causative factors of rasa pradoshaja vikaras Achara ends the verse with chityanama cha atichintanat [7]. Again during explaining the disorders of rasa pradoshaja vikara acharya start the verse with ashrdha and aruchi [8]. In rasavimanaadhyah acharaya has indicated 13 etiquettes of food intake at that time acharya mentioned the term tanmana bhunjita [9] otherwise the food will not digest properly and benefits of food will not be obtained (agni dushti). These two concepts clearly connect Agni and stress. Iron deficiency anemia (pandu) is a symptom

of rasa pradoshaj by this concept, which is connecting stress and metabolic disorder.

Oja is the prime concept of Ayurveda which literary means vyadhikshamata the cause of ojakshaya is dhyan (stress) [10] and among many symptoms of ojakshaya one is doshchyawana during sansraavastha, the unavailability of dosha on their site of action hampers normal function [11]. During the process of digestion tridosha plays an important role. With the help of samagni food get proper digestion and further leads to adhyarasa formation, the sthoulaya and karshya depend upon rasa, [12] during the description of the management of atikrasha person acharya has indicated to distress the patient. These two concepts again connect agni and stress.

Hyperthyroidism is an abnormal metabolic condition described in modern medical science where a patient shows symptoms like severe weight loss (atikarshya) and feels an increase in appetite (tikshnagni). According to modern medical science, hyperthyroidism is commonly associated with stress. In Ayurveda, metabolic disorders can be correlated with santarpana or aptarpana janya vyadhis. One example of santarpana janya vyadhi is pramilaka which is nothing but the Satatadhyana (Chronic stress) [13].

GERD (gastroesophageal reflux disorder) gets triggered by stress; the root cause of GERD is incontinence of esophageal stricture. Likewise in Ayurveda causes of ajirna are both physical and mental factors too and also the same symptoms appear in the condition of amajirna is hrudya-ashudhhi [14]. According to rachna sharir hrudya is the Pradesh in the human body from which lies between nabhi to stanantara [15]. Mandagni produces an improper metabolic toxic substance in the body, called ama, this ama is sticky in nature and causes resistance in srotas if it obstructs the pathway of insulin, it may cause insulin resistance if it causes obstruction in the flow of a particular enzyme it may cause enzyme insufficiency, similarly improper digestion of food does not nourish the body so it may lead to nutrition insufficiency.

Discussion

Physical and mental doshas affect each other, vitiated vata, pitta, kapha lead to vitiation of rajas and tamas and vice-versa. Stress is very common nowadays. Stress reduces neuroendocrine activity and contributes to the development of metabolic syndrome similarly patients with metabolic syndrome show higher levels of cortisol and normetanephrine output. Adrenocortical dysfunction can have an impact on hepatic lipoprotein metabolism and insulin sensitivity in target organs. This concept can easily be understood with ayurvedic samhitas as stress cause ama dosha with obstructs

the channels and enzymes don't get a chance to reach the site of action. Agni is an important factor of our body which is the causative factor of complexion, lusture, health, nourishment, oja, teja, and prana. Factors that cause durbalagni produce a number of unwanted unripe by-products at the gross to the molecular level, these by-products are the basic cause of sanchayavastha of shadkriyakala. Hence it is proved that agni is the main factor of dosha dushti, agni itself can be vitiated by psychological factors, or vitiated agni can cause vitiation of physical doshas which further leads to vitiation of rajas and tamas.

Conclusion

This review provides in-depth knowledge of stress, coupled with its ayurvedic aspect and its effect on digestive fire. Inappropriate action of vitiated digestive fire produces toxins and causes vitiation of doshas. The great psychiatrist Richard Davidson has quoted that "the key to a healthy life is having a healthy mind". Similarly, great author Manly Palmer Hall wrote that "An unhealthy mind, even in a healthy body, will ultimately destroy health". All these examples signify a fact that psychological doshas affect physical health by affecting agni and cause multiple metabolic syndromes (santarpana and apatarpana janya vyadhi).

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