Analytical Review of Medadhatudushti in Prameha

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Abstract

Prameha is a lifestyle disorder, described in ancient medical science. It is a samnipatja disorder having predominance of kaphadosha and medodhatudshti. It is produced by the vitiation of ten dusya which include six dusya (digestive), seven dusya (blood), and shukra (reproductive tissues). Prameha is one of the seven doshas. Meda and dhatu are the main factors involved in the pathogenesis of prameha. The treatment of both the dhatu is very important for the early diagnosis and proper treatment of prameha. Medadhatudushti is abnormal. The normal production of medadhatu (aparipakva meda) is because of the abnormal medadhatugani.

Keywords: Prameha, Medadhatu, Medadhatwaagni, Medadhatudushti

Introduction

The prameha means passing large quantity of turbid urine frequently. According to Madhavanidana text it is characterized by increased quantity of urine with or without the increased frequency of urine. It is a samnipatja disorder having involvement of almost all dhatu, ojas and urine. The excessive abaddhameda (loose fat), mansa (muscle proteins), kleda (body fluids), shukra (reproductive tissues), shonita (blood), vasa (muscle fats), maja (bone marrow), rasa (body fluid with plasma), ojas (vital essence of all tissues) are important factors involved in the pathogenesis of prameha. Kaphadosha and medadhatu are mainly involved. The structural entity which provides support and nourishment to body is called dhatu. The normalcy at the dhatu level is very important to maintain health. Dhatu are susceptible to imbalances caused by doshas. Meda is one of the seven structural elements which has immense clinical importance. It plays an important role in developing metabolic disorders like sthulya (obesity) and prameha (urinary disorders). The medadhatu is mainly present in the abdomen and inside the small bones (saraka meda). Vasa is type of pure meda present in muscular tissue. Thus, medadhatu may be understood as all types of fats/lipids present in the body. There are particular channels for transportation of the parinamprapta medodhatu (digested and absorbed fats) known as medovahasrotas. The ancient seers have mentioned purvrupa (premonitory symptoms) of Prameha as medadhatupradhoshayakara (abnormal functioning of medadhatu) which clearly indicates the involvement of body fats in this disease. As per therapeutic point of view patients of prameha are described as sthula prameha (obese patients of prameha) and krisha prameha (lean patients of prameha). In both of these types the medodhatu is abnormal. The normal production of medadhatu (aparipakva meda) is because of the abnormal medadhatugani.

Relation between Kaphadosha and Medadhatu

This relationship of interdependence of dosha, dhatu and mala in this body is known as ashraya -ashrayi bhava/ adhara-adheya bhava [supporter and dependent relationship]. Due to the similarities in panchabhauchtaka elemental composition, the dosha take shelter in the dhatu. The treatment of both the dependent and the supporter is also on similarity basis. Kapha is related the rasa, mansa, meda, maja, shukra, pureesha and mutra, so kaphadosha shows affinity towards these dusya. Medadhatu is primarily composed of prithvi (earth), jala (water), and agni (fire) mahabhuta 10 and kaptha is also composed of prithvi and jala (water)11. Kaptha is associated with nutrition, stability and lubrication12. The medadhatu also provides including unctuousness and stability to the body13.

Formation and metabolism of Medadhatu

All dhatu are dependent on food. The ingested food brought to koshtha by pranavata, is disintegrated and digested with the help of pachakapitta, samanvata and five bhutagni. It leads to the formation of rasa and mala. From this rasa part seven dhatu are metabolized/transformed into two kinds of products known as sara (nutrition) and kitta (waste). This process is the function of seven specific entities known...
as dhatvagni which is specific for its corresponding dhatu. Meda is formed because of the action of medo-dhatvagni on snigdha attribute of ampu (liquid part) of sukshma mansadhatu. The jatharagni essentially nourishes the respective dhatu in the form of dhatvagni residing in each of the dhatu. The dhatvagni is responsible for the increase (vridhi)/decrease (kshaya) of the representative dhatu. The hyp function (saada) of the dhatvagni leads to the increase in the representative dhatu. While hyper functioning (atideepit) leads to diminished production (kshaya) of the dhatu. Medadhavagni is the metabolic factor responsible for the formation and maintenance of medadhata in the body. As per a review study the poshaka mamsa dhatu is transformed into meda dhatu by the pravahi, jala, and mamsagni. The poshaka meda dhatu is transformed in to asthi dhatu by the pravahi, vayu, and medagni. So the role of dhatvagni is very important for metabolic disorders like dyslipidemia (medoroga), obstructs urinary disease including diabetes (prameha), obesity (sthulya). In conditions like obesity (sthulya), the meda dhatu metabolism weakens, leading to excessive meda (fat deposition). Undernourishment of the remaining dhatu depicts the slow metabolism of meda (medo-dhatvagnimandya) in the body. It is found in various sites like sphi (gluteal region), udara (abdomen) vayapahana (omentum), vrikka (kidneys), asthi (inside the bones). Medadhata can be divided into two components based on its functions. Poshya medadhata is the structural component of medadhata and is also known as fixed or stored fat (baddhamedas). It is stored in the layer of meda (medodhara kala), mainly in the omentum. Its primary function is to serve as a source of nutrition for medadhata in case of starvation. The other type is poshaka medadhata which is the circulating component of medadhata and is free and unbound (abuddha medas). It circulates in the nutrient fluid or plasma (rasadhata) and blood (rakta). Its primary function is to provide lubrication and uncotoxicness wherever needed in the body. This component can become vitiated in the pathogenesis of prameha. Various functions of medodhata are snehana (moisture), sweda (perspiration), dradhatva (stability), asthi pushhti (nourishment of the bones). Medovahasrotomula (the organs which are closely related to the functions of medadhata) are vrikka and vapavahan, katu, mamsa. It is noteworthy that in the process of metabolism and formation of medadhata, the metabolic by-products or upadhatu called snyaga (ligaments) are also formed. These ligaments play an important role in providing support and stability to the body. However, during this process, waste products such as sweat and sebum are also formed. These waste products are excreted from the body through the skin and other excretory organs. The laxity in the body in pathogenesis of prameha may be related to abnormality in snayga. The bad smell of the body in prameha may be related to excessive sweat or sebum.

Medadhatuvriddhi and medadhatukshaya
An increase in meda (body fat) can be attributed to several factors such as lack of exercise, daytime sleeping, and a diet that increases kapha. This increase in meda and kapha can cause blockages in the srotas, eventually resulting in medovridhi. It results into sthulata, prameha purvarupa, snigdhanga, udarpashvavriddhi, kasa, sleshma-mamsa-raktvikara, swasa and dourgardhyan. Medadhata (reduction in body fat tissue) can be compared with the state of atikrisha mentioned in Asthanindita prarupa. This reduction in medadhata can occur due to various factors such as undernourishment of rasadhata caused by fasting, excessive exercise, overworking, insomnia, excessive bathing, prolonged illness, and vatavardhaka aharah -viharah.

Medodusthi and obesity
We have learnt that abnormality in medovahasrotasa leads to obesity and premonitory symptom of prameha. It has been clearly mentioned that obese person can have many diseases among which prameha is one. Additionally the consideration of sthulaprameha shows the significance of obesity in the treatment of prameha. Hence, it is mandatory to discuss pathology of obesity here. Obesity is caused due to over-nourishment as a consequence of the continuous intake of a heavy, sweet, cold and fatty diet, lack of physical exercise, abstinence from sexual intercourse, sleeping during the day, cheerfulness, lack of mental activities, and hereditary/genetic defects. These consequences may lead to an excess of fat and consequent depletion of other dhatu. Due to the obstruction of body channels by excess medadhata, the movement of vata is specially confined to koshtha (abdominal region) resulting in the stimulation of digestive power and quick absorption of food which increases the hunger ultimately making the person to consume more food. By not following rules of taking meals at specific times during the day, he is afflicted by dreadful diseases. Agni (digestion power) and vata are the two most troublesome factors in pathogenesis of obesity. There is an excessive increase in fat and muscle tissue in the abdomen and other regions and a state of deficient metabolism and energy. The excessively obese have reduced lifespan, constricted or limited movement, reduced sexual activities or impotence (due to small quantity of semen produced and obstruction of the channel of semen by medadhata), debility due to imbalance among dhatu, profuse sweating, bad smell (due to the inherent nature of fatty tissues as well as excessive sweating) excessive hunger and thirst. As per sage Sushruta ama production leads to obesity and obesity leads to many diseases like pramehapedika.

Medodusthi and Prameha
Nidana intake (exposure to certain diets and less physical activities) aggravate kapha which spreads all over the body quickly because of fat and flaccidity in body. The kapha blends quickly with the medas primarily because of excessive fats and identical qualities of kapha and medas. Vitiated kapha vitiate medas and dhatu in the process. The vitiated kapha and meda then mixes with mamsa (muscle tissues) and kleda (moisture/body fluid). Vitiation of the muscle tissues provides a congenial environment for the manifestation of carbuncles (pidika) like sharavika and kacchapika in the muscle. The liquid dhatus in the body get further vitiated and transformed into mutra (urine). Vrikka (kidney) and basti (urinary bladder) are at the two ends of the channels carrying urine; the openings of these channels get affected by meda and kleda. The vitiated kapha obstructs the openings of these channels. This results in the manifestation of prameha which becomes chronic or incurable due to the affection of all qualities of kapha and simultaneous vitiation of homogeneous and heterogeneous dhatu. Homogeneous vitiation is seen in kaphaja prameha which is curable and heterogeneous in pittaja and vataja prameha which are either palliable or incurable respectively.

In the initial stage, kapha is in excess, which vitiates meda and kleda causing kaphaja prameha. Further progression results in the kshaya of kapha. Pitta then predominates, which vitiates the blood (rakta), precipitating Pittaja prameha. Further progression results in loss of pitta. This leads to vitiation of vata, which weakens the body of vital substances/vital essence through urine, precipitating vataja prameha. Death immediately comes in the form of prameha to those who are very lethargic and morbidly obese.
Clinical Manifestations of Prameha

Systemic manifestations in prameha have been described in terms of either purvarupa, lakshana & updrava. The three vitiated doshas, while causing prameha, produce many prodromal symptoms which are very closely related to medodushti. Some of them are matting of hair; dryness in mouth, palate, and throat; thirst and laziness; increased amount of bodily waste excretion from the body sweat pores; adhesion of bodily wastes to the orifices of the body (like ear, eyes, nose and body pores), appearance of turbidity or other abnormalities in the urine; smell of raw flesh in the urine; and excessive sleep and drowsiness46. Clinical manifestations of prameha are described in classical ayurvedic texts only on physical character of the urine45. Vitiated kapha dosha and medadhatu form the basis of pathogenesis of prameha. Further, the vitiation of pitta and vata dosha is observed as per their etiological factors to manifest respective types. Later on many complications may develop if proper treatment is not given in purvarupa and lakshana stage46.

Discussion

In medodusti (impairment of fat metabolism), there is an excessive accumulation of medodhatu in the body, which can lead to blockages in the channels of body and cause obesity and various health issues. Medodusti due to kapha and other dosha with affliction of the urinary channels leads to prameha. When abnormal meda is accumulated in the subcutaneous tissue, it gives the clinical presentation of obesity and similarly when abaddda meda is carried to basti along with other dhatu or ojas and excreted in the urine it produces the manifestation of prameha. Bahudrava shleshma (kapha that contains too much liquid) joins and affects meda, causing it to become abadha (unobstructed or fluid) in nature. This form of meda has been described to have an effect on mamsa (muscle tissue), thereby increasing the volume of body fluid. This has been described as sharira- kleda (body fluid). The normal function of abadhahameda is to produce unctuousness in the body along with compactness. This abadhatava (looseness) causes derangement in the structure of meda producing shaithiliya (flabbiness) in the body47.

The formation of meda depends not only on high consumption but also on the impaired metabolism or less physical activity. Researches shows that sedentary lifestyle, coupled with an excessive intake of sugar-rich substances lead to a build-up of toxins that could be equated to ama (or toxins resulting from improperly digested food and metabolic products). This ama then leads to the formation of abnormal meda (fat). When this resultant meda is coupled with vitiated dashas and agni it provides a favourable atmosphere for the causation of prameha48.

Management of diseases caused by the vitiation of medovahasrotasa should be done on the basis of the method of treatment of medoroga. Nidana parivarjana, samshamanaa and samosodhana chikitsa should be performed. Jatharagni and dhatwagni should be taken care off. Physical exercise and proper diet are the key factors in treatment.

Conclusion

The treatment of disease is based on the pathogenesis and the nature of the disease. Prameha is a disease related with excess and turbid urine caused by mainly medadashti. Obesity may act as a precursor of this disease. The prodromal stage show many symptoms of abnormal medas. On the basis of the above facts, it can be concluded that it is necessary to evaluate the agnimandya and medadushti for appropriate diagnosis and treatment.

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