



OVERVIEW OF DIABETES IN AYURVEDA

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Article Received on: 18/06/13 Revised on: 20/07/13 Approved for publication: 11/08/13

DOI: 10.7897/2230-8407.04804

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ABSTRACT

In Ayurveda all the diseases are diagnosed on the basis of Vatha, Pitha and Kapha by means of naadi. Ancient science of Ayurveda has discussed diabetes at length thousands of years ago. The knowledge and effectiveness of diagnosis can be understood with the fact that Ayurveda has classified Diabetes (Prameha) into 20 types, Kaphaja prameha (sub divided into 10 types), Pittaja prameha (sub divided into 6 types) and Vataja prameha (again sub divided into 4 types). In these three types of prameha, Kaphaja prameha and Pittaja prameha are curable and vataja prameha cannot be cured. Ayurvedic practitioners use diet modification, Panchakarma, several herbal preparations for the treatment of diabetes. Exercise is another cornerstone of Ayurvedic treatment towards diabetes. Yoga and breathing exercises are traditionally used. In this article I have discussed about the above said dimension about diabetes in detail.

Keywords: Diabetes, Ayurveda, Prameha, Herbal remedy and Yoga.

INTRODUCTION

Ayurveda

The origin of Ayurveda is traced back to four books of knowledge called Vedas. Rigveda, Samveda, Yajurveda and Atharveda (4500 to 1600 B.C.). The information on health care was subsequently developed by many Ayurvedic practitioners and finally compiled into three important books known in Ayurveda as the senior triad (vridha traya): Charak Samhita, Sushruta Samhita and Ashtanga Hridaya Samhita. The subsequent three books that are commentaries on the senior triads are known as the junior triad (laghu traya): Madhava-nidana, Sarangdhar Samhita and Bhavaprakash Nighantu. These books contain basic concepts of health and disease, disease management, anatomy and physiology, hygiene, materia medica, pharmacology and therapeutics, herbal formulations, pharmacy and synthesis of herbo-mineral formulas.

Tri-Doshas

In Ayurvedic philosophy, the five elements combine in pairs to form three dynamic forces or interactions called doshas. Dosha means “that which changes”. The three active doshas are called Vata, Pitta and Kapha. Vata is a force conceptually made up of elements ether and air. The proportions of ether and air determine the activity of Vata. Vata governs breathing, blinking of the eyelids, movements in the muscles and tissues, pulsations in the heart, all expansion and contraction, the movements of cytoplasm and the cell membranes, and the movement of the single impulses in nerve cells. Vata also governs such feelings and emotions as freshness, nervousness, fear, anxiety, pain, tremors and spasms. The primary seat or location of the Vata in the body is the colon. It also resides in the hips, thighs, ears, bones, large intestine, pelvic cavity and skin. It is related to the touch sensation. If the body develops an excess of vata, it will accumulate in these areas. Pitta is a force created by the dynamic interplay of water and fire. These forces represent transformation. They cannot change into each other, but they modulate or control each other and are vitally required for the life processes to occur. Pitta governs digestion, absorption, assimilation, nutrition, metabolism, body temperature and skin coloration, the luster of the eyes, intelligence and

understanding. Psychologically, pitta arouses anger, hate and jealousy. The small intestine, stomach, sweat glands, blood, fat, eyes and skin are the seats of Pitta. Kapha is the conceptual equilibrium of water and earth. Kapha is structure and lubrication. Kapha cements the elements in the body, providing the material for physical structure. This dosha maintains body resistance. Water is the main constituent of kapha and this bodily water is responsible physiologically for biological strength and natural tissue resistance in the body. Kapha lubricates the joints, provides moisture to the skin, helps to heal wounds, fills the spaces in the body, gives biological strength, vigor and stability, supports memory retention, gives energy to the heart and maintains immunity. Kapha is present in the chest, throat, head, sinuses, nose, mouth, stomach, joints, cytoplasm, plasma, and in the liquid secretions of the body such as mucus. Psychologically, kapha is responsible for the emotions of attachment, greed and long-standing envy. It is also expressed in tendencies toward calmness, forgiveness and love. The chest is the seat of kapha. Diseases are classified according to organ systems and functions. Specialities such as internal medicine, surgery, pediatrics, gynecology, obstetrics, eye, ear, nose and throat diseases, geriatrics, eugenics and aphrodisiacs, psychiatry, pharmacology, toxicology and pharmacy are clearly delineated and discussed in detail in Ayurveda.¹ Ancient science of Ayurveda has discussed diabetes at length thousands of years ago. The knowledge and effectiveness of diagnosis can be understood with the fact that Ayurveda has classified Madhumeha (Diabetes) into 20 Types. Ayurvedic System of Medicine clearly defines Diabetes. Diabetes Mellitus (DM) was known to Indian Civilization since vedic period by the name Asrava (Prameha). Diabetes is also known as Madhumeha. Diabetes is also called Maharoga (Major Disease) as almost all parts of the body and every cell of human physiology are affected. It also disturbs 5 sheaths of the body—annamaya kosha (Food sheath), pranamaya kosha (Energy sheath), manomaya kosha (Mind Sheath), vijñana maya kosha (Intellectual Sheath) and anandamaya kosha (Bliss Sheath).

Etiological Causes: (Nidana)

- Lack of exercise and consumption of excess food having ushna, snigdha and guru nature. Foods that increase kapha, medhas and mootra are the major factors for prameha.
- Indulgence in sitting on soft cushion for long periods, avoiding physical activities.
- Sleeping for long hours.
- Use of curds, flesh of animals of domestic, aquatic or of marshy places, milk, flesh grains, fresh water and puddings made of jiggery / sugar and all other similar factors which bring about increase of kapha in the body are the causes for prameha.
- Under nutrition during important periods of growth and development, including fetal life, infancy and childhood, results in early adaptations in structure and functions of the body. All the above factors will lead to type I Diabetes.
- Ayurveda divides DM in to two categories: (a) genetic (sahaja) occurring in young age from the very beginning of life that has some similarities with the juvenile diabetes or insulin-dependent diabetes; and (b) acquired (apathyaja) due to an unhealthy lifestyle that occurs in old age and obese people and has similarities with type 2 DM.
- In addition, Charak Samhita (100 to 400 AD.) describes two types of DM: one that occurs in very underweight people (krsaprameha) and the second that occurs in obese people (sthula). The former DM requires restorative (santarpan) treatment along the line of insulin treatment and the latter requires fat-reducing (apatarparna) treatment WHO 2006.²

Pathogenesis (Samprapti)

According to classic Ayurvedic texts, DM and all pramehas (urinary disorders) start with the derangement of kapha that spreads throughout the body and mixes with fat (meda) that is similar in physical properties to kapha (mucus). Kapha mixed with fat passes into the urinary system thereby interfering with normal urine excretion. Vitiating pitta, vata and other body fluids (malas) may also be involved in this blockade. This blockade is believed to be the cause of frequent urination observed in DM. Pramehas left untreated may lead to deranged development of the bone marrow, body tissues, nutritional materials (fat, proteins, and carbohydrates) and hormones (ojas). The incurable stage of pramehas is madhumeha, which is insulin-dependent DM. Madhumeha may not be described precisely in Ayurveda, but it points in the direction of the current knowledge we have about the disease with respect to neurological damage and insulin (ojas) malfunctioning at the production (degeneration of islets of Langerhans in the pancreas) or at the utilization levels. The involvement of tissues (dushyas) leading to blood vessels, kidney, eye and nerve damage is also described in Ayurveda as major complications. DM is described not only as a condition of madhumeha (sugar loss in urine), but also as a condition of ojameha (immunity and hormone loss) in Ayurveda for the purpose of treatment.³

Clinical Description (Rog Viakhya)

The major signs and symptoms of DM described in classic Ayurvedic texts consist of honey like sweetness of urine, thirst, polyphagia, lassitude, tiredness, obesity, constipation, burning sensation in the skin, seizures, insomnia and numbness of the body. Boils, wounds and abscesses are often

difficult to heal in a diabetic patient and are recognized in Ayurveda. All these symptoms are very similar to those currently described in Western medicine. Ayurvedic physicians also use modern diagnostic chemical analysis of urine and blood for confirmation.⁴

Types of Prameha (Diabetes mellitus)

According to Ayurveda, prameha is divided in 4 major types (and total 21 types). All these types are diagnosed by means of the nature of urine.

- Kapha type (again divided into 10 types)
- Pitta type (again divided into 6 types)
- Vata type (divided into 4 types)
- Juvenile diabetes for children (for unhealthy practices of parents and/or due to the sins of past-birth).⁵

Kaphaja Prameha, types and its clinical symptoms

Udakameha

Clear, copious, white, cold, odour less, with little turbidity and greasiness almost resembling water

Ikshumeha

Urine very sweet like the juice of sugar cane

Sandrimeha

Urine kept undisturbed for sometime in a pot assuming thickness is seen.

Surameha

Urine resembles alcoholic beverages prepared with flour with clear fluid on top and sediments at the bottom.

Pishtameha

Urine appears thick as though mixed with flour and is white in colour, The patient experiences horripulations often.

Shukrameha

Urine resembles semen or even be mixed with it.

Sikatameha

The urine contains small particles resembles sand.

Shitameha

Urine is copious, sweet in taste and very cold to touch.

Shanairmeha

Elimination of urine is very frequent and very slow.

Latameha

Urine resembles saliva with appearance of threads and is sticky.

Pittaja prameha, types and its clinical symptoms

Ksarameha

Urine resembles solution of alkali in smell, colour, taste and touch.

Nilameha

Urine will be Blue in colour.

Kalameha

Urine will be like charcoal.

Haridrameha

Urine is pungent and deep yellow and the patient experiences burning sensation during urination.

Manjishameha

Urine is foul smelling and resembles decoction of manjishtha.

Raktameha

Urine is having foul smell, hot, salty taste and red in colour like blood.

Vataja Prameha, types and its clinical symptoms

Vasameha

Urine is mixed with muscle fat or appears like that and is voided frequently.

Majjameha

Urine is mixed with marrow or appears like that and is voided frequently.

Ksaudrameha

Urine looks like a decoction, sweet and non-sticky.

Hastimeha

Person passes urine continuously like an elephant in heat, slowly (without pressure) and is mixed with lasika (tissue fluid).

DISCUSSION

Ayurvedic practitioners attack diabetes using a multipronged approach. First, they address diet modification, eliminating sugar, simple carbohydrates and emphasizing complex carbohydrates. Protein is limited, since excessive intake can damage the kidneys. Fat is also limited because there is often a deficiency of pancreatic enzymes, making fat digestion difficult. Since many diabetics have auto-antibodies, a cleansing program is instituted. Panchakarma is typically used for this purpose. This begins with herbal massages and an herbal steam sauna followed by fasting to cleanse the body. This is followed by an herbal purge for the liver, pancreas and spleen. Colon therapy is next, first to cleanse the digestive tract and then to reconstitute the system. Ayurvedic practitioners also use several herbal preparations for diabetics. Exercise is another cornerstone of Ayurvedic treatment of diabetes. Yoga and breathing exercises are traditionally used.⁶

Management of prameha

The siddha system of medicine is an alternative system of medicine which deals with herbal preparations. The concept is close to that of Ayurveda and the herbs mentioned in this system are also related to Ayurveda. Management of an illness considers elimination of causes of the imbalance of dosas, administration of various herbal formulas, dietary and lifestyle interventions to bring dosas back into balance, elimination of chinta (serious worry) and nurturing the soul to regain spiritual health (Samana). For the management of Diabetes mellitus, different therapeutic agents are available, but all these chemical medicines can bring the sugar level under control but the patient may end up with a series of side effects. On the other hand, Ayurveda is a science in which the supplements are used which are the extracts of herbs. The studies on the herbal plants used in Ayurveda prove the better management through herbs with very minimal side effects or sometimes no side effects. In the same way Yoga studies also have shown significant results in the management of diabetes. Therefore, Ayurveda and Yoga as a holistic approach for the management of diabetes mellitus may offer better options for prevention (primary and secondary) and management of diabetes. Traditional daily management of DM is carried out with appropriate palliative herbal therapies. They are available in the classical forms like gutikas (tablets), churnas (powder), asavas and aristas (fermented products), ghritas (medicated ghee), and kashayams (decoctions). Management of illness primarily consists of four procedures: (i) cleansing (samsodhan), (ii) palliation (samsaman), (iii) rejuvenation (kaya kalp) (iv) mental and spiritual healing (sattvavajaya, or psychotherapy). These herbs are selected based on their properties, such as rasa (taste), guna (physicochemical properties), veerya (potency), vipaka (post digestive effect) and prabhava (unique action), that are necessary to bring about balance in doshas.⁷ Thus many different plants have been used individually or in formulations for treatment of

diabetes and its complications. One of the major problems with this herbal formulation is that the active ingredients are not well defined. It is important to know the active component and their molecular interaction, which will help to analyze therapeutic efficacy of the product and also to standardize the product.⁸

Table 1: Herbs Used to Treat Vataja Prameha in Ancient Times

Medicinal plant (Sanskrit name)	Botanical Name
Goksura	<i>Tribulus terrestris</i>
Asmantaka	<i>Mulaka parna</i>
Somavalka	<i>Acacia suma</i>
Bhallataka	<i>Semecarpus anacardium</i>
Ativisa	<i>Aconitum heterophyllum</i>
Lodhra	<i>Symplocos cocchinchinensis</i>
Vaca	<i>Acorus calamus</i>
Patala	<i>Stereospermum suaveolens</i>
Arjuna	<i>Terminalia arjuna</i>
Nimba	<i>Azadirachta indica</i>
Musta	<i>Cyperus rotundus</i>
Haridra	<i>Curcuma longa</i>
Padmak	<i>Prunus cerasoides</i>
Yavani	<i>Carium copticum</i>
Manjistha	<i>Rubia cordifolia</i>
Aguru	<i>Aquilaria agalloocha</i>
Candana	<i>Santalum album</i>

Table 2: Herbs Used to Treat Pittaja Prameha

Medicinal plants (Sanskrit name)	Botanical name
Usira	<i>Vetiveria zizanoides</i>
Lodhra	<i>Symplocos cocchinchinensis</i>
Guduchi	<i>Tinospora cordifolia</i>
Haridra	<i>Curcuma longa</i>
Utpala	<i>Nymphaea stellata</i>
Musta	<i>Cyperus rotundus</i>
Sarja	<i>Yateria indica</i>
Amalata	<i>Cayratia trifolia</i>
Abhaya	<i>Terminalia chebula</i>
Nagakesar	<i>Mammea suriga</i>
Patala	<i>Cydonia oblonga</i>
Kamala	<i>Nelumbo nucifera</i>
Amalaka	<i>Emblica officinalis</i>
Palasha flower	<i>Butea monosperma</i>
Priyangu	<i>Aglaia elaeagnoidea</i>

Table 3: Herbs Used to Treat Kaphaja Prameha

Medicinal plants (Sanskrit name)	Botanical name
Kampillaka	<i>Mallotus philippinensis</i>
Saptacchada	<i>Alstonia scholaris</i>
Sala	<i>Shorea robusta</i>
Bibhitika	<i>Terminalia bellirica</i>
Rohitka	<i>Aphanamixis polystachya</i>
Kutaja	<i>Holarrhena antidiysenterica</i>
Kapittha	<i>Limona elephantum</i>
Katphala	<i>Myrica esculenta</i>
Patha	<i>Stephania japonica</i>
Musta	<i>Cyperus rotundus</i>
Vidanga	<i>Embelia ribes</i>
Lodhra	<i>Symplocos cocchinchinensis</i>
Haritaki	<i>Terminalia chebula</i>
Porasu	<i>Chloroxylon swietenia</i>

Yoga for healthy life style

It is important to note that vigorous exercise is contraindicated in lean and weak patients with severe diabetes. They are advised to perform yoga and breathing exercises (pranayama). In fact, certain yoga practices and breathing exercises are believed to stimulate better utilization and production of insulin by stimulating both the pancreas

and muscles. Health and ill-health are not two discrete entities as commonly understood but health should be conceived as a continuous function indicating the state of well being.⁹ The Yoga asanas included, Surya namaskara, Trikonasana, Tadasana, Sukhasana, Padmasana, Bhastrika Pranayama, Paschimottanasana, Ardhamatsyendrasana, Pawanmuktasana, Bhujangasana, Vajrasana, Dhanurasana and Shavasana. Results indicated that there was significant decrease in fasting glucose levels and postprandial blood glucose levels. The exact mechanism as to how these postures and controlled breathing interact with somato-endocrine mechanism affecting insulin kinetics has been discussed. A significant decrease in waist-hip ratio and changes in insulin levels were also observed, suggesting a positive effect of Yoga asana on glucose utilization and fat redistribution in Non Insulin Dependent Diabetes Mellitus (NIDDM). They recommended that Yoga asana may be used as an adjunct with diet and drugs in the management of Type 2 diabetes. Other lifestyle changes recommended are regular walking and reducing the consumption of fat producing foods such as lard, butter and oils.

Prameha comprises of 20 sub-varieties of diseases with varies physical and chemical changes in urine. Madhumeha is one of the varieties included under vataja prameha and it is also mentioned that if prameha is not cured or treated, it gets converted into madhumeha. Madhumeha is compared to Diabetes mellitus because of both similarities of the disease in respect to etiology, pathogenesis, clinical features and prognosis. Madhumeha is considered as one of the incurable disease because of the predominance of vata.

CONCLUSION

It can be concluded that description of etiology, pathogenesis, signs and symptoms and prognosis appears to be similar in both Ayurveda and modern medicine. As the modern medicines such as Biguanides, Sulphonylureas, Insulin etc. (Used to treat diabetes mellitus) produce more side effects in regular use, it is necessary to search for a safe alternative medicine. So, this article may be useful in the search for a new invention of a drug for diabetes mellitus and a lead for a healthy lifestyle.

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Cite this article as:

B. Jayaprasad, P.S. Sharavanan. Overview of diabetes in Ayurveda. *Int. Res. J. Pharm.* 2013; 4(8):29-32 <http://dx.doi.org/10.7897/2230-8407.04804>

Source of support: Nil, Conflict of interest: None Declared