



Complications of Diabetes Mellitus Prevention and its Management: An Ayurvedic View

¹Dr. Patil Rupali, ²Dr. Wadkar Archana

¹Assistant Professor, Dept. Of Kayachikitsa, Hon. Shri. Annasaheb Dange Medical College, Ashta, Sangli, Maharashtra

²Associate Professor, Dept. Of Kayachikitsa, Hon. Shri. Annasaheb Dange Medical College, Ashta, Sangli, Maharashtra

ABSTRACT:-

Diabetes ‘The Silent Killer’ is projected to be seventh leading cause of death in 2030 as per WHO. Prevalence of diabetes in India also rises rapidly thus, India is considered as Diabetic capital of the world. In long term, patients of diabetes suffer from lot of complications such as Diabetic retinopathy, nephropathy, neuropathy, cardio myopathy etc. In *Ayurveda* Diabetes Mellitus comes under the umbrella of ‘*Prameha*’ which is included among the ‘*Ashtamahagada*’. One of the unique features of *Prameha* is the involvement of multiple *Dooshya*’s in its *Samprapti*. Various *Dooshyas* related with all the three *Dosha*’s will manifest in 20 types of *Prameha*’s. Due to involvements of multiple *Doodhya*’s there are number of *Upadrava*’s associated with *Prameha*. All the *Prameha*’s if not treated will terminally become *Vataja Prameha* with definite signs of *Dhatushaya* and *Oja kshaya* called as *Madhumeha*. Thus in present study literary research has been done to study etio pathogenesis, complications of *Prameha* (Diabetes mellitus) and its *Ayurvedic* management. Different treatment modalities in *Ayurveda* will help to prevent the complications of the *Prameha* and especially *Shodhana Chikitsa (Panchakrma)* is very beneficial.

KEY WORDS: Diabetic retinopathy, Nephropathy, Neuropathy etc

INTRODUCTION:-

The term Diabetes Mellitus describes a metabolic disorder of multiple etiologies characterized by hyperglycemia with disturbance of carbohydrate, fat and protein metabolism resulting from defects in insulin secretion, insulin action or both^[1]. It is characterized as Polyphagia, Polydypsia, Polyuria. Diabetes ‘The Silent Killer’ is projected to be seventh leading cause of death in 2030 as per WHO. Prevalence of diabetes in India also rises rapidly thus, the India is considered as Diabetic capital of the world. In long term patients of diabetes suffer from lot of complications such as blindness, kidney failure, heart attacks, stroke, lower limb amputation etc. The effects of diabetes mellitus include long term damage, dysfunction and failure of various organs.

Diabetes Mellitus comes under the umbrella of ‘*Prameha*’ which is included among the ‘*Ashtamahagada*’^[3]. One of the unique features of *Prameha* is the involvement of multiple *Dooshya*’s in its *Samprapti*. Various *Dooshya*’s related with all the three *Dosha*’s are involved in the different stages of *Prameha Samprapti* will manifest in 20 types of *Prameha*’s. When it is manifested as *Snjaantarpanya*, it is generally *Kapha* dominant. *Kaphaja Prameha* is generally having *Avarana* as the key *Samprapti*. On the other hand *Apatarpanmeha* is related with *Vata* and *Vataja Prameha* is caused by *Dhatukshaya*. Thus the *Prameha* is a disorder of impaired *Agnivyapara* at *Dhatu* level (Endocrinal and metabolic disorder). All the *Pramehas* if not treated will terminally become *Vataja Pramehas* with definite signs of *Dhatushaya* and *Oja kshaya* called as *Madhumeha*^[5,6,7]. Due to multiple involvements of *doodhyas* there are number of *upadravas* associated with *prameha*. Thus in present paper emphasis has been made to study complications of *Prameha* (Diabetes mellitus) and its *Ayurveda* management.

AIM AND OBJECTIVE

To study *Prameha Upadravas* (complications of diabetes mellitus) and its management according to *Ayurvedic* view.

REVIEW ACCORDING TO AYURVEDA AND MODERN

Upadravas of *Prameha* are *Trishna*, *Atisara*, *Jwara*, *Daha*, *Doubalya*, *Arochaka*, *Avipaka*, *Putimansa*, *Pidika*, *Alaji* and *Vidradhi* as per *Charak Samhita* [2]. *Sushruta samhita* has described them as per *Dosha* dominance. *Avipaka*, *Aruchi*, *Chardi*, *Nidra*, *Kasa* and *Peenasa* in *Kaphaja*; *Bastimehanatoda*, *Mushkavadarana*, *Jwara*, *Daha*, *Trishna*, *Amlika*, *Moorcha* and *Vidbheda* in *Pittaja*; while *Udawarta*, *Kampa*, *Hridgraha*, *Lolata*, *Shoola*, *Unnidrata*, *Shotha*, *Kasa* and *Swasa* in *Vataj* [4]

Prameha and *Sthaulya* are closely related thus the complications of *Sthaulya* also can be observed in *Prameha*.

Complications of diabetes mellitus are classified in many ways in modern medicine [8,9]

- I. Acute complications and chronic complications.
- II. Micro vascular diseases like retinopathy, nephropathy, and neuropathy; and macro vascular diseases like angina pectoris ,myocardial infarction, TIA, strokes and peripheral arterial diseases.

Acute complications

1. Chronic hyperglycemia Impairment of growth and susceptibility to certain infections Ketoacidosis
Non ketotic hyperosmolar coma
2. Hypoglycemia

Chronic complications

1. Nephropathy leading to renal failure
2. Neuropathy causing mild to severe damage to nerves.
3. Retinopathy with potential loss of vision
4. Cardiomyopathy ,CHD, heart failure
5. Disorders related with autonomous nervous system e.g vertigo, diarrhea, gastroparesis

Micro vascular complications

Diabetic Retinopathy

Diabetic retinopathy is the result of damage of the tiny blood vessels that nourishes the retina. They leak blood and other fluids that cause swelling of retinal tissue and clouding of vision. It mostly affects both the eyes. Blurred visions, having dark or empty spots in the center of vision, difficulty in seeing during the night are the signs of diabetic retinopathy. Diabetic retinopathy is an ocular manifestation of diabetes, a systemic disease, which affects up to 80% of all patients who have diabetes for 10 years or more. It is the leading cause of blindness for the people aged between 20 to 64 years who has diabetes. Other ocular complications of diabetes include glaucoma, cataract and corneal disease.

As per *Ayurveda*, eye is *Tejomaya*. This means eye is highly vascular in nature. The *Pitta-Rakta* composition of eye is essential for its karma. Since eye is *Agneya* in nature, it always has threats from *Kaphadosha*.

“*Chakshus Tejaomayam Tasya Visheshat Shleshmanobhayam.*”

It is evident that *Prameha* is a disease having *Kapha* domination. The *Kapha Prakop* and resultant *Kleda* leads to vascular changes in the eye which are later manifested as diabetic retinopathy. The major *Samprapti* in diabetic retinopathy is the *Khavaigunya* in *Sookma Raktavaha Strotuses* in eye. The events related with micro angiopathy in retinal vessels are initially caused by *Kapha* and *Kleda* in *Tejomaya* site-eye. The later events with haemorrhage in the eye are *Pitta* and *Rakta* related phenomenon. The final stage of retinal detachment and vision loss is mainly caused by *Vata*.

Diabetic Neuropathy

It is the most common complication of diabetes mellitus. Pathologically nerves show axonal degeneration due to hyperglycemia and vascular damage. Symmetrical distal sensory neuropathy with pain, numbness, parasthesia, glove and stocking sensory loss is the common pattern of clinical presentation. It is classified in

to peripheral neuropathy, autonomic neuropathy, acute onset neuropathy and neuropathy due to diabetic catchexia.

In *Prameha Purvarupas* itself, *Acharya* told about *Karapadadaha* which is the direct reflection of neuropathy. In *Vatavyadhi*, there are two diseases *Padaharsha* and *Padadaha* are similar to peripheral neuropathy. *Suptivata* is also relevant while dealing with DM related peripheral neuropathy. Diabetes mellitus not only affects *Dhatus* but also *Updhatus*. Here *Updhatus* are the soft structures including *Sira*, *Snayu* and *Kandara*. *Upadhatu Pradhoshaja Vyadhis* have certain common clinical features such as *Sthambha*, *Sankocha*, *Granthi*, *Khalwi*, *Shurana*, *Supti* etc. which are correlated with peripheral neuropathies in diabetes mellitus.

Autonomic neuropathy features are similar to *Samanya Upadravas* of *Prameha*. They are associated with *Koshta*, *Basti*, *Hridaya* and *Mehana*.

Diabetic Nephropathy

Diabetic nephropathy is initially manifested as proteinuria. Subsequently as kidney function declines urea and creatinine increases in the blood resulting in chronic kidney failure. Diabetic nephropathy places the patient at a markedly increased risk for cardiovascular diseases.

Basti is considered as one among the *Trimarma*. *Prameha* itself is a *Maharoga* with chronicity. When a *Mahagada* affects a *Maha Marma*, the severity of the disease is understandable. *Kledavahana* is the main function of *Mootra*. In *Prameha*, there is *Bahumutrata*, but in diabetic nephropathy the *kledavahana* is also impaired. As a result *Kleda* and similar *Malabhawas* get accumulated in the body leading to other systemic manifestations. Urea and creatinine gets increased in diabetic nephropathy.

In diabetic nephropathy, due to chronic hyperglycemia there is *Khavaigunya* in *Sukshma Srotuses* of *Mutravaha Stotus*. This impairs *Apana* function. *Vatapritilomata* results in *Malasachaya* leading to secondary *Srotovikriti*.

Macro vascular complications

Early onsets of atheroma, ischemic heart disease, high incidence of hypertension, cerebrovascular accidents, peripheral vascular occlusion are the complications.

From *Ayurvedic* point of view *Dhamani Praticaya* and *Dhamani Upalepa* (Atherosclerosis) takes place. The lining of the blood vessels may become thicker and this in turn can impair blood flow.

Shothahara , *Aamashayagata Vata Hara Chikitsa* should be done. Drugs selected should be *Hrudya* and *Kaphahara* in nature.

Treatment Principle In Diabetes Mellitus:

In most of endocrinal diseases like diabetes mellitus, there is either *Atipravrutti* or *Sanga* in specific *Srotuses*. Apart from this *Khavaigunya* is also there. *Shodhana Chikitsa* is prime importance here for *Malanirharana* and *Vatanulomana*. Neuro regulatory mechanisms are primarily controlled by *Vata Dosha*. The circulation of hormones through blood is also under the direct influence of *Vyana Vata*. The *Panchakarma* procedures will keep the functional integrity of *Vata* in the desired level. Thus *Shodhan Chikitsa* should be applied periodically in the management of diabetes mellitus to prevent its complications^[10].

1.Vamana

Vamana helps in *Kapha Chedana* which will remove the *Manda Guna* from *Srotuses*. It also eliminates cellular level metabolic wastes, thus circulation and binding of hormones will be enhanced. This leads to better performance of hormones without being affected by *Avarana*. Timely performed Vamana will delay the progression of disease and prevent the complications of diabetes mellitus. It is an ideal treatment in pre diabetic stage and insulin resistance with *Kapha* dominance.

2.Virechana

Virechana karma maintains *Pitta* and *Rakta Doshas* and also brings *Vatanulomata*. Certain stages of diabetes mellitus with vascular endothelial dysfunction, diabetic retinopathy etc responds well to Virechana. Virechana brings cholesterol control also thus prevents atherosclerosis and further micro and macro vascular complications.

3.Basti

Basti is also good in maintaining the functional cooperation between the brain and gut brain which is very much relevant in the endocrinal diseases. Yapana Basti like Madhutailik Basti is much important in diabetic neuropathy.

4.Nasya

Nasya is good in enhancing the performance of Prana Vata which is located in Moordha and controlling the endocrine glands. Brimhana Nasya is effective in Vata and pitta related conditions. Diabetic retinopathy responds well to the Virechana Nasya.

5.Raktamokshana

Raktamokshan with jalouka is good in obstructive and ischemic pathologies of diabetes mellitus affecting lower limb. Diabetic wound are better managed by the leech therapy as it has got thrombolytic and vasodilator activity.

Thus, the Panchkarma Chikitsa is the real pathological breaker in Diabetes mellitus where deep seated Dhatu stages, multiple Strot Dushti and chronicity are there. Different Kriya Kalpas like Shirolepa, Aschotana, Anjana, Moordha Taila, Tarpana, Padabhyanga are also beneficial in complications of diabetes mellitus.

DISCUSSION

Different classification of *Prameha* should be kept in mind before designing the line of treatment. As the *Nidan Parivarjana*(avoidance of causative factors) is very essential in *Ayurvedic* management the patient should be advised proper diet and exercise. The two therapeutic varieties as '*Sthoola –Balawan*' and '*Krishna-Durbala*' are essentially diagnosed for fixing *Shodhana* or *Shaman* treatments. *Samshodhana Chikitsa* includes *Snehana*, *Swedana*, *Vamana*, *Virechana* and *Basti*. Before *Snehana*, *Rookshana* is mandatory in *Prameha* patients in *Santarpanajanya Samprapti* especially *Kaphaja Prameha* patients having *Mansa* and *Medo Dhatu Dushti*. *Sthaulya Chikitsa* can also be adopted in *Sthoola Prameha* patients. *Pramehahara*, *Kledahara*, *Strotoshodhana*, *Vatanulonan*, *Rasayana chikitsa* will be given. *Guduchi*, *Dhatri*, *Nisha* , *Shilajit*, *Triphala*, *Guggulu* will be used as *Rasayana*. As *Prameha* is an "*Aanushangika Vyadhi*" and affects '*Mahamarms*' palliative treatments may not be sufficient to tackle the problem. *Shodhana Chikitsa* is found to be very effective in *Prameha* especially in pre diabetic patients and diabetic patients to avoid long term complications of it.

CONCLUSION

Different treatment modalities in *Ayurveda* will help to prevent the complications of the *Prameha* and especially *Shodhana Chikitsa (Panchakrma)* is very beneficial.

REFERENCES

1. Definition, Diagnosis and classification of Diabetes mellitus and its complications. Part 1 Diagnosis and classification of Diabetes mellitus(WHO/NCS/99.2)Geneva world health organization,1999
2. Charaka samhita, Vaidya Yadavji Trikamji Acharya, Part-I, Nidan sthan Chapter 4th Choukhambha Sanskrit Prakashana, Varanasi
3. Charaka samhita,Vaidya Yadavji Trikamji Acharya, Part-II, Chikitsa sthan Chapter 6th Choukhambha Sanskrit Prakashana, Varanasi
4. Sushruta samhita , Kaviraj Dr.Ambikadatta Shastri,Part-I,Nidan Sthan chapter 6th Choukhambha Sanskrit Prakashana, Varanasi
5. Sushruta samhita , Kaviraj Dr.Ambikadatta Shastri,Part-I, Chikitsa Sthan chapter 11th Choukhambha Sanskrit Prakashana, Varanasi
6. Sushruta samhita , Kaviraj Dr.Ambikadatta Shastri,Part-I, Chikitsa Sthan chapter 12th Choukhambha Sanskrit Prakashana, Varanasi
7. Ashtang hridaya , Kaviraj Atridev Gupta ,Chikitsa sthan Chapter 12th, Choukhambha Sanskrit Prakashan, Varanasi
8. Harrisons principle of internal medicine 16 th edition 2005

¹Dr. Patil Rupali , International Journal of Ayurvedic & Herbal Medicine 9(4) July.-August.2019 (3563-3567)

9. Davidson's clinical medicine, edited by John Macleod;1984;chapter12 endocrine and metabolic diseases, page no 457-465;diabetes mellitus.
10. Clinical Panchakarma Dr. P Yadaiah 3rd edition