



REVIEW ON THE CONCEPT OF DIABETIC-DYSLIPIDEMIA AND ITS MANAGEMENT IN AYURVEDA

Lolashri S. J.*

Associate Professor and PhD Scholar, Department of P. G. Studies in Panchakarma, Sri Kalabyraveshwara Swamy Ayurvedic Medical College, Hospital and Research Centre, Bangalore, Karnataka, India.

***Corresponding Author: Dr. Lolashri S. J.**

Associate Professor and PhD Scholar, Department of P. G. Studies in Panchakarma, Sri Kalabyraveshwara Swamy Ayurvedic Medical College, Hospital and Research Centre, Bangalore, Karnataka, India.

Article Received on 24/11/2021

Article Revised on 14/12/2021

Article Accepted on 04/01/2022

ABSTRACT

Diabetes is endemic globally with increasing prevalence in both developing and developed countries. Persistent hyperglycemia of diabetes is associated with micro as well as macro vascular complications like coronary heart disease, stroke, diabetic renal disease, diabetic retinopathy and neuropathy etc. Dyslipidemia contribute to considerable increased risk of atherosclerosis and consequent mortality in diabetic patients. Due to *shleshmala ahara sevana, adhyashana, ayavyama, divaswapana* causes *ama* leading to *madhuratarata* of *annarasa* which forms *shareera anukrama atisneha* leading to the stage of increase in *medas*. If this stage is not treated and continuing indulging in the *santarpanotha nidanas* will increase *medas* further and the nourishment of *uttara dhatus* will be hampered which leads to the manifestation of further stages like *Prameha pidaka, Jwara, Bagandhara, Vidradi, Vatavikara* etc. Hence to combat this condition *Acharyas* mentioned about the administration of *Katu, Tikta, Kashaya rasa pradhana, Rukshaushnaguna chikitsa krama*, treatment modalities like *Rukshaushna Basti, Lekhana Basti, Ruksha Udwartana*.

KEYWORDS: *Diabetes mellitus, Dyslipidemia, Medas, Lekhana Basti, Ruksha Udwartana.*

INTRODUCTION

Diabetes is endemic globally with increasing prevalence in both developing and developed countries.

Worldwide around 62.4 million of the adult population are suffering with Diabetic mellitus among this 77.2% of the patients are associated with Dyslipidemia. Among these 85.5% men and 97.8% women are concomitant with Dyslipidemia. In India >55 million people are with Diabetic Dyslipidemia. Among this 13.9% are of urban population, in which 29% are male and 30% are female sufferers.^[1]

Persistent hyperglycemia of diabetes is associated with micro as well as macro vascular complications like coronary heart disease, stroke, diabetic renal disease, diabetic retinopathy and neuropathy etc.

Disturbance of Lipid metabolism is an early event, potentially preceding the disease by several years. Also this is often considered as Prediabetic stage. Insulin resistance contributes to this characteristic Dyslipidemia. Dyslipidemia if not treated contribute to considerable increased risk of atherosclerosis and consequent mortality in diabetic patients.^[2]

Wherein *Ayurveda, Acharya s* explained the

Medopradoshaja vikaras, medo dusti lakshana s as "Astouninditani...Pramehani Poorvarupani cha" which holds good for describing the concept of Dyslipidemia in Diabetic patients. Also elaborated the sequence of pathological event as well as management protocol of Diabetic dyslipidemia in the context of *Rasanimitaja Sthoulya and Karshya*.^[3]

Pathophysiology

Defects in insulin action and hyperglycemia could lead to changes in plasma lipoproteins in patients with diabetes. Alternatively, especially in the case of type 2 diabetes, the obesity/insulin-resistant metabolic disarray that is at the root of this form of diabetes could, itself, lead to lipid abnormalities exclusive of hyperglycemia.

Type 1 diabetes which is insulin-dependent Diabetes mellitus. It provides a much clearer understanding of the relationship among diabetes, insulin deficiency and lipid/lipoprotein metabolism. In poorly controlled type 1 diabetes and even ketoacidosis, hypertriglyceridemia and reduced HDL commonly occur.^[4]

The lipoprotein abnormalities commonly present in type 2 diabetes, it is non insulin dependent Diabetes mellitus which include hypertriglyceridemia and reduced plasma HDL cholesterol. In addition, low density lipoprotein

(LDL) are converted to smaller, perhaps more atherogenic, lipoproteins termed small dense LDL. Moreover, this Dyslipidemia often is found in prediabetics, patients with insulin resistance but normal indexes of plasma glucose. Therefore, abnormalities in insulin action and not hyperglycemia are associated with this lipid abnormality.

Several factors are likely to be responsible for diabetic dyslipidemia: insulin effects on liver apoprotein production, regulation of lipoprotein lipase (LpL), actions of cholesteryl ester transfer protein (CETP), and peripheral actions of insulin on adipose and muscle.^[5]

Management

Replacement of insulin in these patients may correct these abnormalities in type 1 diabetes and well controlled diabetics may have increased HDL and lower than average triglyceride levels.

In the contrast type 2 phenotype is not usually fully corrected with glycemic control. Use of thiazolidinediones improves insulin actions on peripheral tissues and lead to a greater improvement in lipid profiles than seen with other glucose-reducing agents.^[6]

Concept in ayurveda

Dyslipidemia is considered as prediabetic stage by the contemporary sciences, years ago our *Acharya s* widely elaborated the same concept in detail in terms of its pathophysiology with managerial strategies. The sequence of pathophysiology is also as follows;

Due *nidana sevanas* like *aasya sukaham, swapna sukham, indulging in santarpannottha ahara vihara, gramyadosha* etc. there will be *kshipra shleshma prakopa* which causes *ati shleshma vridhhi*. This leads to alteration in the *gunas of kapha* by increasing in *sneha* and *pichhila gunas* which exhibits in the form of *shareera shaitilya*.^[7]

Due to this there will be *bahu drava shleshma* causes *kshipra shareera visruti*. This *bahudrava shleshma* mixes with the *bahu abaddha medas* i.e; *medo dushti* leads to the formation of *dusta medayukta kapha*. This stage can be considered as Dyslipidemic stage in Diabetes mellitus i.e; as prediabetic stage. Further indulging in the same *nidanas*, due to *samana gunahbuista* this *dusta medayukta kapha* mixes with the *kleda* and *mamsa* leading to *kleda dusti* and *mamsa dusti*.^[8]

This *dushita kleda* affects on *mutravaha srotas* and exhibits in *vanksha* and *basti* in the form of *prabhuta mutra, avila mutra* which are the *pratyatma lakshanas* of *Prameha*. In case of *mamsa dusti* it causes complications like *Prameha pidaka*.^[9]

Chikitsa

To combat this condition *Acharya s* explained that in *purvarupa avastha* we have administer *Apatarpana* lines of treatment like administering *Vanaspati kashaya* etc.^[10] Also mentioned about *Shoshana, Chedana* lines by the administration of *Katu, Tikta, Kashaya rasa pradhana, rukshaushnaguna chikitsa krama*, treatment modalities like *Rukshaushna Basti, LekhanaBasti, RukshaUdwartana*.^[11]

DISCUSSION

In the stage of Diabetic Dyslipidemia there are two sequential order of pathology occurs. Due to *medo pradoshaja* there will be *medo dusti* at first sequence there will be *madhuratarana anna rasa* causing *ama* this can be evaluated in terms of blood sugar levels leading to *bahu drava shleshma* and *bahu abhadha medas*. Hence in this sequence one has to adopt *virukshaneeya or shoshaneeya* lines of treatment modalities.

In the later sequence there will be *shareera anukrama atisneha* leading to the formation of *medas*. This stage is considered as Dyslipidemic stage and can be evaluated through lipid investigations. This stage further causes complications like *kanta upalepa, dhamani upalepa, dhamani pratichaya* etc. Hence to combat this stage one has to adopt *Chedaneeya* i.e; *srotovishodhaneeya* line of managerial strategies.

CONCLUSION

In the present era, due to life style modifications like alteration in the food habits, lack of physical activity, increased stress levels people are more in the way towards metabolic disorders.

Diabetes mellitus is one such major disorder with high prevalence rate which involves different stages like Dyslipidemia.

Hence by understanding these stages as explained in our texts and adopting the appropriate management strategies will helps in primary prevention as well as reduction in the onset and burden of cardiovascular diseases.

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