ABSTRACT

The keywords in Samanya nidana of Prameha are the hetus which are mainly Kapha vriddhikar hetus. It becomes contextual here to take note of the fact that Kapha is the main dosha involved in Prameha. Hence all those hetus that cause Kapha vriddhi automatically become the hetus for Prameha. Kapha is made up of Prithvi and Aap Mahabhootas. It is in fact a personification of Tamasika guna. Hence any environmental influence on the body and mind in the form of Ahara, Vihara and Ritu contributing to the Tamasika factor results in a morbid predominance of Prithvi and Aap Mahabhootas in all the forms of Kapha. In Ayurveda Prameha is the disease which has close resemblance with Diabetes Mellitus. Various dietary, lifestyle and psychological factors are responsible for Prameha. Metabolism of fats and carbohydrates is disturbed due to these factors. Lakshanas (signs and symptoms) and upadrava (complications) of Prameha are found narrated in almost all the classical literature. This information and knowledge of Prameha can be used to explore the concept of Diabetes in Ayurvedic perspective. According to seven dhatus, Medadhatu plays an important role in pathogenesis of Prameha. In Ayurveda, Srotas have been described a fundamental concept. In this study we have reviewed the literary data related to Madhumeha and Diabetes Mellitus.

Keywords: Prameha, Madhumeha, Nidana panchak, Diabetes Mellitus.

1. INTRODUCTION

In Ayurveda Prameha is the disease which has close resemblance with Diabetes Mellitus. Prevalence rate of Diabetes Mellitus is raising continuously. Diabetes Mellitus is one of the major risk factors for cardiovascular diseases, renal diseases, retinal diseases etc. These all complications are also increasing in individuals with Diabetes Mellitus. Prameha is a disease characterized by the excessive excretion of turbid urine. Madhumeha is one of the four types of Vataja Prameha. In Madhumeha urine is madhura and simulates Madhu (honey). All the mehas can be termed as Madhumeha in the presence of Tamumadhuryata. Sushruta asserted that when all Pramehas if neglected, get converted into Madhumeha. He especially emphasized that the disease Prameha along with Pidaka should be termed as Madhumeha.

Kapha is made up of Prithvi and Aap Mahabhootas. It is in fact a personification of Tamasika guna. Hence any environmental influence on the body and mind in the form of Ahara, Vihara, Ritu contributing to the Tamasika factor results in a morbid predominance of Prithvi and Aap Mahabhootas in all the forms of Kapha. The Viharas have been implicated as Kaphamedokara viz. Divaswapna (it causes
inertia in the body and the accumulation of Prithvi and Aap mahabhoota, leading to aggravation of Kapha), Ayuyyama (A man is generally supposed to balance between the nutrient intake and energy spending to maintain equilibrium. When this balance is not maintained, it results in accumulation of Medas and Kapha).

The literature on Prameha and Diabetes mellitus in Ayurveda classical text books and Modern text books is so vast and scattered. There is a need to collect all information for particular understanding and form a foundation for further research. Hence present review was planned based on certain objectives viz. to study Prameha from various Samhitas and to study Diabetes mellitus from various modern textbooks in details.

2. METHODS
References related to Prameha and Diabetes Mellitus were searched and relevant literature was reviewed from Charaka Samhita, Modern books and Journal articles. Available commentaries of present era are also reviewed. All reviewed literature was critically analysed and well organized to prepare the manuscript.

3. CONCEPTUAL REVIEW
3.1. General Consideration
Madhumeha is the types of Vataja Prameha in which urine is madhura and simulates Madhu. All the mehas can be termed as Madhumeha in the presence of Tanumadhuryata. Sushruta asserted that when all Pramehas if neglected get converted into Madhumeha and especially he emphasized that the disease Prameha along with Pidaka should be termed as Madhumeha. In texts various paryaya (synonyms) of Madhumeha are mentioned which are helpful to get fair idea of the disease, viz. Bahumootrata (A disease where there is excessive urination), Khanda meha (Khanda means sugar. Thus, the illness characterized by passing of urine which is identical to sharkara is called Khandameha), Kshoudrameha (This synonym narrated by Sushruta because of close resemblance of urine with Madhu i.e., honey), Madhumeha (A condition characterized by excess urination, resembling honey either in colour or taste), Meha (It is referred to Prameha by Amaraksosa), Mootradosha (Defective urine is termed as Mootradosha), Ojomeha (Ojus is considered as the sara or essence of all Dhatus, which is a dushya in Madhumeha. Hence Ojomeha has been used by Charaka to describe this disease), Paushpameha (Narrated in Anjana Nidana. Paushparasa again resembles with Madhu), Prameha (Excessive excretion of urine is called as Prameha). Above synonyms suggests that, at all texts mentioned the urine concordant with Madhu.

3.2. Nidana Panchaka
3.2.1. Nidana / Hetu (Etiological Factors)
A. Ahara
Any Ahara which is madhura and lavana rasa pradhana; guru, manda, sheeta, snigdha, shlakshana, sandra, sthira, picchila guna pradhana; madhura vipaki and sheeta veeryatmaka; also, improper boiled, unroasted, unfried food articles and Anoopa mamsa (sea food) etc. taken in excessive quantity serve as hetu (causative factor). Such ahara increases Kapha which attains ‘aparipakwa avastha’ and mainly affects the Medas and Kleda leading to Prameha (Sthoola) due to Avarana.

B. Vihara
The following Viharas are implicated as Kaphamedokara.

Divaswapna (Sleeping at day time): It causes inertia in the body in turn the accumulation of Prithvi and Aap mahabhoota, leading to aggravation of Kapha.

Ayyayama (No exercise): A man is generally supposed to balance between the nutrient intake and energy spending to maintain equilibrium. When this balance is not maintained, it results in accumulation of Medas and Kapha. Hence adequate amount of Vyayama is necessary to avoid Prameha.

Asya sukha and Swapna sukha (Excessive eating & sleeping): Excessive Asya sukha and
Swapna sukha causes snigdhata leading to Kapha vridhi.

Alasya (Sedentary lifestyle & laziness): It is an attribute of a human being, which is mostly controlled by Manas. Alasya is nothing but that state of lethargy of mind where a man is unable to carry out or undertake any enthusiastic task not because he is incapacitated due to ill health but only because he is unwilling to do it. This results in inactivity causing excessive nourishment.

Chinta tyaga: Chinta (stress) is an attribute of the mind that is antagonistic to Kapha and Medas. When a person becomes free from Chinta, he starts sitting idle without doing any work which helps in accumulating excess Kapha and Medas.

Samshodhana varjana: Samshodhana therapy is essential in any individual for emptying of vitiated Doshas from the body. Being a form of langhana, samshodhana causes Medas and Kapha kshaya. Not doing samshodhana causes accumulation of Kapha and Medas.

Mruja varjana: Mruja is shuddhi. One who avoids therapies like Udvantana, rutu prakara samshodhana etc. leads to Kapha dusti causing Prameha.

3.2.2. Samprapti (Pathogenesis)

Prameha is basically tridoshatmaka vyadhi with Kaphadosha pradhanyata. Here drava guna of the Kapha gets increased (vruddhi) due to nidanas like asyasukha, swapnasukha etc. It leads to interaction of dosha and dushya causing further vitiation of Kapha. Vruddha kapha dosha spreads all above the body and leads to shareera shaihithlya due to samana guna of Kapha with Medas. It causes vitiation of the Medas. Vitiated medas and kapha further vitiates mamsa and shareeraja kleda and causes its pramanataha vruddhi (quantitative increase). All vitiated dosha and dushya get lodged in mamsa and causes pidikas like sharavika, kachhapika etc. At this stage if person continues to have nidana sevan, further vitiation of shareeraja kleda gets converts into mutra. As Mutravaha srotas is composed of medas and kleda, these along with other vitiated doshas and dushyas reaches to Mutravaha srotas, leading to Prameha.

3.2.3. Poorvaroopa of Prameha

Prameha poorvaroopa are of up most importance. If the patient complains about yellowish or bloody micturition, before diagnosing it as Prameha physician should look for the poorvaroopa of Prameha first and if these lakshanas are manifested without the poorvaroopa of Prameha then it should be diagnosed as Rakta. Charaka also mentioned that, if the patient presents few or all poorvaroopa of Prameha along with little raise in the quantity of mootra, then he must be considered as Prameha rogi.

3.2.4. Roopa Vivechana

Onset of lakshanas mark the agama (presence) of vikara. They are usually pronounced manifestations of poorvaroopas. These are characteristic of Vyakta avastha of a vyadhi. The pratyatma lakshanas are invariably encountered during this stage. The roopas can hence be studied under mootrasambandhi roopas and sarvadaihika roopas.

3.3. Modern Review

3.3.1. Genetic susceptibility in DM

The exact cause of the disease DM has remained elusive, but many factors are closely linked or associated with the disease. The mechanism of inheritance of DM, either insulin dependent or non-insulin dependent is unclear. The genetic predisposition is probably permissive and not casual.

A. Genetic susceptibility in IDDM

This probably involves more than one gene. Candidate loci have been proposed on chromosomes 2, 6, 11, & 15 though primary genetic site in humans is believed to be located in the major histocompatibility locus on the short arm of the 6th chromosome. While definite associations exist between class I alleles & type I DM, the D locus is considered of primary importance.
Aher GT, Pathare SV, Pathare SS. Prameha with special reference to Diabetes Mellitus: A Literary Review.

INTERNATIONAL JOURNAL OF RESEARCH IN AYURVEDA AND MEDICAL SCIENCES
Peer Reviewed                         ISSN: 2582-2748                         Scientific e-journal

(A, B, C & D are the four loci of HLA human leukocyte antigen) encoded by the MHC (Major Histocompatibility Complex) found to be closely associated with IDDM.⁶

B. Genetic Susceptibility in NIDDM

Modes of inheritance of NIDDM in variant called maturity onset DM of the young have been more or less conclusive than the other forms. It is highly likely that ordinary NIDDM is polygenic. Genetic influence is powerful. Since the concordance rate for DM in monozygotic twins with type 2 disease may be as high as 80%, risk to offspring and siblings of patients with NIDDM are higher than in type I DM.⁶

3.3.2. Clinical Symptomatology and Signs

Clinical manifestations of diabetes mellitus are variable and depend on the stage of diabetes, its type, mode of onset, age of patient and presence or absence of complicating factors. As already stated under prediabetic stage, diabetes before it becomes evident and symptomatic, passes through various stages. Thus, symptoms occur in a diabetic at a fairly advanced stage of the disease.⁷ Symptoms of diabetes mellitus⁸ were explained in Table No 1.

Prognosis in DM:

The prognosis of the diabetes usually refers to the likely outcome of diabetes. The prognosis of Diabetes Mellitus depends upon duration of disease (chronicity), chances of complications, recovery in symptoms, control of blood sugar level, period required for recovery and mortality rate.⁹

3.4. Scope and Limitations

Actually, Prameha is a syndrome comprising 20 different micturition related disorders. As per modern texts it can be correlated with different diseases. Madhumeha purvarupas can be considered as pre-diabetes and Madhumeha resembles with diabetes mellitus and metabolic syndrome. Prameha is the disease of Medovaha srotas. It has moolsthana Kati and Vrukka according to Sushrut Samhita and Vrukka and Va-
pavaahan according to Charak Samhita. Lot of conceptual, observational and clinical research is needed for proper correlation of Prameha and Madhumeha with Diabetes Mellitus.

4. CONCLUSION

Prameha is a syndrome rather than a disease. Diabetes Mellitus can be correlated with one of the 20 types of Prameha i.e., Madhumeha. Diabetes if not controlled can cause serious complications viz. Cardiovascular diseases, Neupath, Retinopathy, Diabetic foot, hearing impairment, Alzheimer’s disease etc. By establishing association between modern concept and Ayurveda concept there is hope to prevent such complications in future. Hence, such studies are necessary in future.

REFERENCES

6. Diabetes in India; Available from https://en.wikipedia.org/wiki/Diabetes_in_India#
TABLE

Table No 1: Symptoms of diabetes mellitus

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Course of Diabetes Mellitus</th>
<th>Symptoms of IDDM</th>
<th>Symptoms of NIDDM</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Age of onset</td>
<td>Before 40 years</td>
<td>After 40 years</td>
</tr>
<tr>
<td>2</td>
<td>Onset</td>
<td>Abrupt</td>
<td>Gradual</td>
</tr>
<tr>
<td>3</td>
<td>Body weight</td>
<td>Usually wasted non-obese</td>
<td>Obese (loss occurs late) of weight</td>
</tr>
<tr>
<td>4</td>
<td>Ketosis</td>
<td>Occurs easily and may be a presenting symptom</td>
<td>Does not occur but hyper-osmolar coma may occur.</td>
</tr>
<tr>
<td>5</td>
<td>Plasma insulin level</td>
<td>Low or immeasurable</td>
<td>Normal up to High in absolute terms but lower than predicted for plasma glucose</td>
</tr>
<tr>
<td>6</td>
<td>Glucagon level</td>
<td>Elevated</td>
<td>Relatively high</td>
</tr>
<tr>
<td>7</td>
<td>Insulin therapy</td>
<td>Readily responsive</td>
<td>Responsive to resistant</td>
</tr>
</tbody>
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Cite this article as:

Source of Support: Nil; Conflict of Interest: None declared.