

Prameha and Prediabetes- A review by Ayurveda and Modern
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Abstract:

Prameha has been a global problem is well described in the ancient Indian classics life the Vedas and the Ayurvedic works which ensued the Vedic period . *Prameha* is a disease, manifesting in one of the *tri-marma* namely *basti* .The aetiopathogenesis of *pramehas* as described by the Ayurvedic authors with a glance to the therapeutic measures is also included in the study.In the present era, many people are suffering from this disease and is often considered as the silent killer. This fact itself triggered the need of review of this disease. Prediabetes means a ‘pre diagnosis of diabetes’. In real sense this is an intermediate state of hyperglycemia that gives you a chance to wake up and combat the dreadful menace untowardly knocking the door of your life. Modern sedentary life style may be one of the basic reasons of this pathological entity. Diabetes is one of the current burning health issues taking almost whole world in its grip. So, understanding its pace with which it is growing all over the world WHO also have declared its moto for this year as

‘Stop Diabetes’ mission. Near about 471 million peoples across the globe are suffering from this ‘Prediabetes’ and unfortunately, India stands at second position in the world. Prediabetes is an intermediate state of hyperglycemia where the glycemc level is above normal but below the Diabetic glycemc threshold level. Thus, Prediabetes is a state of high risk for developing Diabetes with 5 to 10% cases converting to Diabetes per annum. The appropriate changes in the life style can definitely reduce the severity of the risk factors and help to overcome the debacle.

Keywords: *Ayurveda*, *Prameha*, Prediabetes, *Basti*, primary prevention, lifestyle, diet.

INTRODUCTION

In Ayurveda , almost every disease has been set on different basis i.e, sign and symptom, its root cause, its *Aashraya*, *Sthana* etc. *Prameha* got its name because of its *Pratyatma Lakshana*. Various informations regarding *Prameha* are elaborately explained in Ayurvedic classics. Here an attempt is done to analyse *prameha* by compiling various references. As prediabetes is also an

intermediate state of hyperglycemia and not an irreversible pathological entity, therefore Ayurveda has a little bit advantage with its first objective of maintaining the glucose level in the normal limits. The earliest reference of “Prameha” is found in the “Holy Vedas” of India. The word Prameha Literally means “to flow” which is derived from the Sanskrit root

Diabetes poses a major health problem globally and is one of the five leading causes of death in most of the developing countries. Unfortunately, India will soon reach the pinnacle of it . The Samhita Granthas (Ancient Ayurvedic Classics) with ensued the vedic period bear ample clinical descriptions on this disease.⁵ according to the above clinical descriptions it is indicated that the ancient physicians of India were aware of the presence of sugar in blood and urine. It was Thomas wills (1621-1675) who demonstrated this more scientifically. Thereafter William Cullen (1712-1794) added the word “Mellitus” to diabetes, like the Prameha-Madhumeha concept of the ancient Ayurvedic classics. Later on Johann Peter Frank (1745-1821) classified the disease into Diabetes mellitus and Diabetes insipidus. And it was Cawley (1778) who linked the disease with the functions of **Pancreas**. The sugar that is excreted through the urine was names as grape sugar (Cherul-1815). In 1848 Fehling established the presence of reducing sugar in urine of diabetics. Later Claude Bernard held studies in the errors of Carbohydrate metabolism with its relation to diabetes. The Nobel Prize winners of 1923, Best and Banting did outstanding clinical research on insulin and its role in metabolism. Among all Ayurvedic classical texts Charaka

Samhita is the oldest & first to explore various facets of Diabetes coating it under *Ashtau Mahaagada* i.e. eight dreadful diseases and explaining its etiology & treatment in a separate chapter of His *Nidana sthana & Chikitsa sthana* respectively.

Apart from this his contribution in reference of understanding Diabetes & Obesity in his 17th and 21st chapter of Sutrasthana is unparalleled. The 21st chapter of Sutrasthana is ‘*Ashtau Ninditeeya Adhyaya*’ which mainly deals with all the endocrinal metabolic disorders, one of them is *Atisthaulya* i.e. obesity which may further lead to Type II Diabetes.

Therefore, it is customary to understand ‘Atisthaulya’ (Obesity) & Prediabetes with an intention to stop their conversion to Diabetes. An effort in the form of this article is being presented to prevent the pathogenesis of Diabetes taking into account the Ayurvedic principles of management and to provide a well- designed treatment plan having desired quality & potential.

With a worldwide population of 387 million (8.3% of world population) predicted to reach 592 million by 2035,^[1] diabetes mellitus is undoubtedly a fastest growing public health challenge of the 21st century. Diabetes has a disproportionate global distribution with approximate 77% of its total burden shouldered in low- and middle income countries. India and China are two big homelands for diabetes. India alone, currently, homes 69 million diabetic people and is expected to double this number by the year 2040.^[2,3]

Any retrospective presence of *Prameha Purvarupa* among diabetes people may come as a clue about the

possible appearance of such features as a consequence of the process of diabetes development. Such knowledge may eventually help us developing an advisory on the basis of such warning features as the telltale of upcoming diabetes. A timely observation may eventually help one make effective changes in the lifestyle and other routines so that the pathogenic progress may be arrested.

The other approach to prevent diabetes could be more generic and is based on the prevention of risk factors found to have an association with the development of diabetes. Identification of the risk factors having a potential of promoting the development of diabetes in future and finding the effective ways to reduce those risk factors could therefore be the first practical measure required to be taken in this situation.

Type 2 diabetes precipitates through a complex multifactorial process incorporating multiple lifestyle and food-related factors. Randomized clinical trials have demonstrated that type 2 diabetes can largely be prevented through diet and lifestyle modifications. Personalized primary prevention among high-risk individuals to prevent the transition to overt diabetes is therefore an attractive alternative to reduce the diabetes-related morbidity and mortality.

How the prediabetics may be prevented from being converted into overt diabetic? To find a strategic reply for this question, it is need to understand that how the prediabetes is screened and diagnosed conventionally. Prediabetes is actually the stage of erratic glucose tolerance in response to food. Overtly, this is a subclinical condition, marked only by subtle blood sugar level changes although a bit higher but have not reached to the

level qualifying to be called as diabetes. During this stage, there are no obvious clinical features which may eventually be called as warranting or alerting signs which can actually help the patient to understand about the possible impending doom in the form of diabetes.

Interestingly, Ayurveda in reference to *Prameha*, a clinical entity having resemblance to diabetes, presents a vivid description about disease *Purvarupa*. *Purva Rupa* (*Purva* = prior; *Rupa* = features), as per Ayurvedic understanding, are the subtle clinical features which arrive before the full manifestation of a disease. These may be considered as the telltale signs of the upcoming disease in the normal course of pathogenesis progression.

For an Ayurvedic physician, however, *Purvarupa* also arrive as an opportunity to act early and proactively through their timely identification which may remain unnoticed in case of unawareness about such features and their relation to upcoming disease.

Any retrospective presence of *Prameha Purvarupa* among diabetes people may come as a clue about the possible appearance of such features as a consequence of the process of diabetes development. Such knowledge may eventually help us developing an advisory on the basis of such warning features as the telltale of upcoming diabetes. A timely observation may eventually help one make effective changes in the lifestyle and other routines so that the pathogenic progress may be arrested.

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Besides lifestyle and dietary factors, few other noteworthy factors from Ayurveda leading to diabetes are *Vegadharana* (suppression of natural urges); stress, anger, and sleep disturbances. Ayurveda also proposes a genetic linkage of diabetes by indicating it as a *Sahaja* (present since birth) and *Anushangi* (irreversible and progressive) disease. Considering the diverse etiopathogenesis of diabetes, such additional causes look important and are required to be enquired if they also play a role in diabetes precipitation.

Within a population pool, large number of confounding factors may work together relating to the precipitation of diabetes. This is however obvious to see that among those exposed, only those who are genetically susceptible, develop diabetes in the subsequent part of their life.

This susceptible “prediabetic” population has become the focus of diabetes prevention studies^[9] worldwide for its possibility of preventing or delaying the impending diabetic conversion through identifying the links between various confounding factors such as food and lifestyle and diabetes.

MATERIALS AND METHODS

1. Various references regarding *Prameha* & Prediabetes is compiled from different Ayurvedic treatises, previous research works and other relevant modern books, and is presented.

2. Comparison of different views regarding the concepts related to *Prameha* & Prediabetes is enlisted.

OBSERVATIONS AND DISCUSSION

Definition of Prameha:

Prameha can be defined as,

- i. Condition where there is excess urine flow¹.
- ii. Condition which is characterized by excessive out flow (secretion).
- iii. Condition where there is excretion of urine/something with excessive frequency or quantity.

Madhumeha:

Madhumeha can be defined as,

- i. Condition where *Mootra* resemble *Madhu*².
- ii. Clinical entity where the patient passes excess of *Mootra* which is *Kashaya*, *Madhura*, *Pandu* and *Rooksha* which are similar to the characteristics of *Madhu*.³
- iii. Where *Mootra* is similar to *Madhu* in character and *Varna*. If all other varieties of *Prameha* are neglected or treated improperly then they terminate or convert into *Madhumeha*.⁴ It has also been stated that *Prameha* which is characterized by *Pidakas* should be specially called as *Madhumeha*⁵.

Paryaya

Prameha, *Meha*, *Mootra Dosha*, *Bahumootrata*, *Madhumeha*, *Ojomeha*, *Kshaudrameha*, *Paushpameha*

Historical Review

In India the history of the disease *Madhumeha* is recorded since ancient time. We can find various references regarding *Prameha* / *Madhumeha* in the other form similar to *Prameha* right from Vedic period. Documentation of different ancient literature gives various references

regarding all aspects of *Prameha* and assists one to do critical review of the history which helps to understand the future in better way.

NIDANA:-

Madhumeha can occur due to *Beeja Dosh* or *Apathya Ahara* and *Vihara*. The former is elaborated by the term *Sahaja Prameha* by *Susruta*⁷ and as *Jata Pramehi* by *Caraka*.⁸ The *Samanya*

Nidana for *Apathyanimitaja Prameha* are *Madhura*, *Amla* and *Lavana Rasas*, *Snigdha*, *Guru*, *Picchila*, *Sheetala Dravyas*, *Nava dhanya*, *Sura*, *Anupa Mamsa*, *Ikshu* and *Guda* consumed in excess. *Viharas* such as *Nidra Sukha*, *Asya Sukha*, *Vyayama Tyaga*, *Chinta Tyaga* and *Samsodhana Varjana* also contribute to *Apathyanimitaja Prameha*⁹.

Table 1: References of *prameha* /*madhumeha* in various indian literatures⁶

Period	Literature	Term used for Madhumeha
Vedic Period	Atharva Veda (Kaushika Sutra) - K.Su.26/6-10	<i>Aastravam</i> - which means Mutratisara i.e. excessive urination
Pauranic period	i. Agni Purana	<i>Kshaudrameha</i> and <i>Akshaudrameha</i> are described
	ii. Garuda Purana - G.P.159-9	The term <i>Madhumeha</i> itself being used as “ <i>Madhuryacha tano rata</i> ”
	iii. Valmiki Ramayana - Sundara Kaanda 24/2	Description about urine in this condition is available. After taking excessive sweet juices some monkey passed <i>Madhura Mutra</i> .
	iv. Kautilya Artha Shastra	The word <i>Prameha</i> is found

Table 2: An overview on *prameha*/ *madhumeha* in *bruhat trayi*

Bruhat trayi	References	Described on
Charaka Samhita	1. Nidana : 4	Etiology, pathogenesis, symptomatology and complications
	2. Chikitsa : 6	Detailed treatment with Pathya- Apathya
	3. Sutra : 17	Etiopathogenesis of Avaranajanya Madhumeha along with complications is narrated
Sushruta Samhita	1. Nidana : 6	Nidana Panchaka of Prameha
	2. Chikitsa: 11	Prameha Chikitsa
	3. Chikitsa: 12	Prameha Pidaka Chikitsa
	4. Chikitsa : 13	Madhumeha Chikitsa
Ashtanga Hridaya	1. Nidana : 10	Prameha Nidana Panchaka
	2. Chikitsa : 12	Treatment aspects

Table 3: An overview on *prameha* / *madhumeha* in other ayurvedic classics

S.N	Texts	Description
1	Bhela Samhita (Bh.Ni.6/1-4)	Two types of Prameha is given i.e <i>Swakritija Prameha</i> and <i>Prakritija Prameha</i>
2	Harita Samhita (Ha.S.3rd Sthana.31)	Narrated Prameha as <i>Papajanya Roga</i> . Enumarated 13 types of Prameha with different classifications like <i>Puya Prameha</i> , <i>Takra Prameha</i> , <i>Rasa Prameha</i> , <i>Grita Prameha</i> etc.
3	KashyapaSamhita (Ka.Su.25/22)	In Vedana Adhyaya symptoms of Pramehi child are given. Considered as <i>Chirakari Vyadhi</i> .
4	Parashara Samhita (P.S.S.2-1)	Madhumeha is described as <i>Papakarma janya roga</i> .
5	MadhavaNidana (Ma.Ni.33)	20 types of <i>Prameha</i> and 10 types of <i>Prameha Pidakas</i> are described.
6	Sharangadhara Samhita (Sh.Sam.Pur.7/59-62)	Named 20 types of <i>Prameha</i> and mentioned 10 types of <i>Prameha Pidakas</i> .
7	Bhavaprakasha (B.Pra.M.38)	Added some new preparations for the treatment of <i>Madhumeha</i> .
8	Chakradatta (35th chapter)	Described the treatment of <i>Prameha</i>
9	Yogaratanakara	<i>Chandraprabha Vati</i> and <i>Vasantakusumakara Rasa</i> are specially indicated for Prameha.
10	NyayaChandrika (Gayadasa)	Narrated <i>Avila Mutrata</i> is due to the presence of <i>Dushya</i> in urine.

Visesha Nidana:-

Apart from the *Samanya Nidana* of *Prameha* which is predominantly of *Kapha Vardhakafactors*, *Nidana Sevana* of *Pitta* and *Vata Prakopaka* factors can also lead to the specific type of *Pittaja* and *Vataja Pramehas*.

Pittaja Prameha can occur by indulging in *Ushna*, *Amla*, *Lavana*, *Kshara*, *Katu*, *Ajirna Bhojana Upasevana* and by *Viharas* such as *Tikshna Atapa*

Sevana, *Santapa* and *Krodha*.¹⁰

Vataja Prameha can occur by *Atisevana* of *Kashaya*, *Katu*, *Tikta*, *Ruksha*, *Laghu*, *Sheeta Dravyas* and by *Viharas* such as *Vyavaya*, *Vyayama*, *Vamana*, *Virechana* and *Asthapana Atiyoga*, *Vega Dharana*, *Anashana*, *Abhighata*, *Atapa Sevana*, *Udwega*, *Shoka*, *Shonita ati sechana* and *Jagarana*.

Table 4: Prameha nidana^{11,12,13,14,15}

	<i>Charaka</i>	<i>Susruta</i>	<i>Ashtanga hrudaya</i>	<i>Madhava nidana</i>	<i>Bhava prakasha</i>
Aharataha					
<i>Nava Dhanya</i>	+	-	+	+	+
<i>Sura</i>	+	-	+	-	-
<i>Anupa Gramya Udaka Mamsa</i>	+	-	+	+	+
<i>Ikshu</i>	+	-	+	+	+
<i>Ksheera</i>	+	-	+	+	+
<i>Dadhi</i>	+	-	+	+	+
<i>Hayanaka, Yavaka, Cinaka, Iktaka</i>	+	-	-	-	-
<i>Uddalaka, Naisadha, Mukundraka</i>	+	-	-	-	-
<i>Harenu, Masa, Mahavrihi</i>	+	-	-	-	-
Viharataha					
<i>Asaya Sukha</i>	+	+	+	+	+
<i>Swapna Sukha</i>	+	+	+	+	+
<i>Divaswapna</i>	-	+	-	-	-
<i>Avyayama</i>	+	+	-	-	-
<i>Atapa Sevana, Agni Santapa</i>	+	-	-	-	-
<i>Ajeerna Bhojana, Anashana</i>	+	-	-	-	-
<i>Vegadharana, Abhigata</i>	+	-	-	-	-
Rasataha					
<i>Madhura</i>	+	+	+	-	-
<i>Amla</i>	+	-	+	-	-
<i>Lavana</i>	+	-	+	-	-
<i>Katu</i>	+	-	-	-	-
<i>Tikta</i>	+	-	-	-	-
<i>Kashaya</i>	+	-	-	-	-
Gunataha					
<i>Snigdha</i>	-	+	+	-	-
<i>Guru</i>	-	-	+	-	-
<i>Picchila</i>	-	-	+	-	-
<i>Sheeta</i>	-	+	+	-	-
<i>Drava, Ushna, Kshara</i>	+	-	-	-	-
<i>Ruksha, Laghu</i>	+	-	-	-	-
Karmataha					
<i>Kapha Samjanana</i>	+	-	+	+	+
<i>Medo Samjanana</i>	+	+	+	+	+
<i>Mootra Samjanana</i>	+	-	+	+	+
Manasikataha					
<i>Alasya</i>	-	+	-	-	-
<i>Krodha, Shoka, Udwega</i>	+	-	-	-	-
Atiyoga					
<i>Vamana, Virechana</i>	+	-	-	-	-
<i>Asthapana, Nasya</i>	+	-	-	-	-

POORVAROOPA

Poorvaroopa are indications of impending diseases. They occur prior to complete manifestation of disease and may suggest the forthcoming illness. During the course of the *Samprapti* of an illness, the morbid *Doshas* circulating all over the place in the body tend to localize in an area and produces some of the unique symptoms and is referred by

Table 5: Prameha poorvaroopa ^{16,17,18,19}

the name *Poorvaroopa*. As *Madhumeha* is classified under the *Vatika* type of *Prameha*, *Purvaroopa* of *Prameha* can be taken as *Purvaroopa* of *Madhumeha*. If all the *Pramehas* are neglected then it results in to *Madhumeha*. This may be the reason for not mentioning the specific *Poorva roopa* by our Acharya for *Madhumeha*. In the context of *Prameha*,

<i>Poorvaroopa</i>	<i>Charaka</i>	<i>Susruta</i>	<i>Ashtanga Hrudaya</i>	<i>Ashtanga Sangraha</i>
<i>Sweda</i>	+	-	+	+
<i>Angagandha</i>	+	+	+	+
<i>Anga Shaithilya</i>	+	-	+	-
<i>Anga Sada</i>	-	+	-	-
<i>Shayya Sukherati</i>	+	-	+	-
<i>Svapna Sukherati</i>	+	-	+	-
<i>Asana Sukherati</i>	+	-	+	-
<i>Hridayopadeha</i>	+	-	+	-
<i>Netropadeha</i>	+	-	+	-
<i>Jihwopadeha</i>	+	+	+	-
<i>Shravanopadeha</i>	+	-	+	-
<i>Taluni Malotpathi</i>	-	+	-	-
<i>Danteshu Malotpathi</i>	-	+	-	-
<i>Ghana Gatra</i>	+	-	+	-
<i>Kesha Ati Vriddhi</i>	+	-	+	-
<i>Nakha Ati Vriddhi</i>	+	+	+	-
<i>Kesha Jathilee Bhava</i>	+	+	-	+
<i>Sheeta Priyatvam</i>	+	-	+	-
<i>Gala, Talu Shosha</i>	+	-	+	-
<i>Asya Madhurya</i>	+	+	+	+
<i>Kara Pada Daha</i>	+	+	+	-
<i>MootraPipeelika Abhisarana</i>	+	-	+	-
<i>Madhura Mootrata</i>	-	+	-	+
<i>Shukla Mootrata</i>	-	+	-	+
<i>Snigdha Gatra</i>	-	+	-	+
<i>Picchila Gatrata</i>	-	+	-	-
<i>Gana Gatrata</i>	-	+	-	+
<i>Pipasa</i>	+	+	-	-

<i>Shvasa Dourgandya</i>	-	+	-	-
<i>Tandra</i>	+	+	-	-
<i>Kara Pada Suptata</i>	+	-	-	-
<i>Anga Suptata</i>	+	-	-	-
<i>Alasya</i>	+	-	-	-
<i>Mukha Shosha</i>	+	-	-	-
<i>Kayachidropadeham</i>	+	-	-	+
<i>Sarvakale Nidra</i>	+	-	-	-
<i>Shatpada Abhisarana on Shareera</i>	+	-	-	-
<i>Shatpada Abhisarana on Mootra</i>	+	-	-	+
<i>Pipeelika Shareera Abhisarana</i>	+	-	-	+

CLASSIFICATION OF PRAMEHA:-

Prameha has been classified on different basis but as it is the *Dosha* which has major influence on pathology of this

disease. Prameha has been classified primarily on the basis of the dominant Guna of the particular *Dosha*.

Table 6: classification of Prameha

Sr. No	Classification based on	Types
A	Dominant <i>Dosha</i>	1. Kaphaja Pramehas – 10 types 2. Pittaja Pramehas – 6 types 3. Vataja Pramehas – 4 types
B	Etiology	1. Sahaja 2. Apathyanimittaja 3. Santarpanajanya & Apatarpanajanya 4. Prakriti Prabhava & Swakrita
C	Pathogenesis ^{20,21}	a) 1.Avaranajanya 2.Dhatukshayajanya b) All the Prameha turn to Madhumeha in course of time
D	Body constitution ²²	1.Sthoola Pramehi 2.Krishna Pramehi
E	Prognosis ²³	1.Sadhya 2.Yapya 3.Asadhya

Table 7: Classification of prameha- different views

Types	<i>Charaka</i> ²⁴ , 25,26	<i>Susruta</i> ²⁷	<i>Ashtanga hrudaya</i> ²⁸	<i>Madhava nidana</i> ²⁹
Kaphaja Meha				
<i>Udakameha</i>	+	+	+	+
<i>Ikshuvalikameha</i>	+	+	<i>Ikshumeha</i>	<i>Ikshumeha</i>
<i>Sandrimeha</i>	+	+	+	+
<i>Sandrprasadameha</i>	+	<i>Surameha</i>	<i>Surameha</i>	<i>Surameha</i>

<i>Shuklameha</i>	+	<i>Pishtameha</i>	<i>Pishtameha</i>	<i>Pishtameha</i>
<i>Shitameha</i>	+	<i>Lavanameha</i>	+	+
<i>Sikatameha</i>	+	+	+	+
<i>Shanairmeha</i>	+	+	+	+
<i>Alalmeha</i>	+	<i>Phenameha</i>	<i>Lalameha</i>	<i>Lalameha</i>
<i>Shukrameha</i>	+	+	+	+
Pittaja Meha				
<i>Ksharameha</i>	+	+	+	+
<i>Kalameha</i>	+	<i>Amlameha</i>	+	+
<i>Nilameha</i>	+	+	+	+
<i>Lohitameha</i>	+	<i>Shonitameha</i>	<i>Raktameha</i>	<i>Raktameha</i>
<i>Manjishtameha</i>	+	+	+	+
<i>Haridrameha</i>	+	+	+	+
Vataja Meha				
<i>Vasameha</i>	+	+	+	+
<i>Majjameha</i>	+	<i>Sarpimeha</i>	+	+
<i>Hastimeha</i>	+	+	+	+
<i>Madhumeha</i>	+	<i>Kshoudrameha</i>	+	+

SAMPRAPTI

The sequential process of *Dosha* vitiation, their spread in the body to manifest the disease is called *Samprapti*.³⁰ It includes various stages as disease progresses i.e. from *Nidana Sevana*, Vitiation of *Dosha Dushyas* and upto *Vyadhi Utpatti*. The *Samprapti* of *Prameha* can be better understood by knowing the concept of “*Vikara Vighata Bhava Abhava Vishesha*” which is explained by Acharya Charaka in *Prameha Nidana*.³¹ *Nidana, Dosha, Dushyas* are the three responsible

factors for producing (*Vikara Vighata Abhava*) and not producing (*Vikara Vighata Bhava*) the diseases. If these three do not combine with one another completely or unite poorly due to lapse of *Kala*, then there will be either,

1. Non-production of the disease
2. Production after some time
3. Manifests mildly or without all the symptoms mentioned for the diseases.

In case the proper *Anubandha* of these three factors than there will be *Prabala Rogothpati* with all *Lakshanas*.

Table 8: Concept of *vikara vighata bhava abhava vishesha*³²

Bhavas (Factors)	Anubandha (Union helpful to one another)		Ananubandha (Union not helpful to one another)
	Prabhala Anubandha	Abala Anubandha	
Nidana + <i>Dosha</i> + <i>Dushya</i>	Rogotpatti will be <input type="checkbox"/> Sheegra <input type="checkbox"/> Balishta <input type="checkbox"/> Sarvalakshana	Rogotpatti will be <input type="checkbox"/> Chira <input type="checkbox"/> Durbala <input type="checkbox"/> Alpa <input type="checkbox"/> akshanas	Roga Anutpatti (Non production of the diseases)

Samanya Samprapti of Prameha³³

Charaka has explained *Samanya Samprapti* of *Prameha* elaborately.

□ The *Samanya Samprapti* process commences from the *Nidana Sevana*. The excessive indulgence in *Nidana Sevana* of *Guru, Snigdhadhi Ahara* and *Avyayamadi Vihara* leads to *Kapha Dosha Sanchaya*. It is important to mention that the *Kapha Dosha*, which gets *Sanchita* here, is having the quality of *Bahudravatva*, vividly supported by *Charaka*.³⁴ Due to *Nidana Sevana* the *kapha Dosha* gets *Bahudravatva*.

Vishista Samprapti

Kaphaja Prameha Samprapti³⁵:

Due to indulgence in *Kaphakara Ahara Vihara* there is vitiation of *Kapha*, which due to similar *Guna* and affinity to *Meda* does *Meda Dushti* and *Kleda Dushti*, thereby increases *Drava Dhatus* in the body. This increased, vitiated *Shareera Kleda* along with *Dushta Kapha* and *Dushta Medas* enters into *Mootra Ashaya* and gets transformed into *Mootra*. During this Process they acquire the *Dasha Gunas* of *Kapha* namely – *Shweta, Sheeta, Snigdha, Guru, Madhura, Sandraprasada and Manda*, based on these *Samyoga Vishesha* of *Dosha Gunas* *Dasha Kaphaja Prameha* Manifests.

Pittaja Prameha Samprapti:³⁶

If *Pitta Vruddi* in relation to other *Dosha* is associated with *Pittakara Ahara Vihara* and the subtle condition of *Dhatus* (or in presence of *Kaphaja Mehas*) then *Pitta Dushti* is caused, which leads to *Rakta Dushti* first due to *Ashryeebhavata*. later on other *Dhatus* involved. Due to *Samyoga Visheshata* of the *Gunas* of *Pitta* (namely- *Kshara, Amla, Lavana, Visra*

and *Ushna*) six varieties of *Pittaja Pramehas* are manifested. *Pittaja Pramehas* manifest at a quicker pace than *Kaphaja Meha*.

Vataja Prameha Samprapti:³⁷

In an individual whose body is affected with conditions of *Kaphaja* and *Pittaja Pramehas* and then also if he indulges in *Vatakara Ahara* and *Vihara*, then it aggravates the *Vata* very quickly which spreads all over the body and while doing so it drags down the *Vasa, Majja, Lasika and Ojas* to the *Basti* and eliminates it from the *Shareera* thus leading to the manifestation of *Vataja Prameha*.

DIAGNOSIS OF PREDIABETES

WHO has defined prediabetes as a state of intermediate hyperglycemia using two specific parameters i.e., Impaired Fasting Glucose (IFG) defined as Fasting Plasma Glucose (FPG) of 6.1 – 6.9 mmol/L (110-125 mg/dL) and Impaired Glucose Tolerance (IGT) defined as 2 hour plasma glucose of 7.8 – 11.0 mmol/L (140-200 mg/dL) after ingestion of 75 g of oral glucose load or a combination of the two based on a 2 h Oral Glucose Tolerance Test (OGTT).

The American Diabetes Association (ADA), on the other hand, has the same cut of value for IGT (140-200 mg/dL) but has a lower cut of value for IFG (100-125 mg/dL) and has additional Haemoglobin A1c (HbA1c) based criteria of a level of 5.7 – 6.4% for the definition of prediabetes.

The disease process and the signs & symptoms can be shown schematically as given below

Table 1: Gradual development of obesity into Prediabetes & Diabetes

Sr. No.	Obesity (Atisthaulya)	Pre-diabetes	Diabetes
1	Decrease in Life span	Yes	Yes
2	Atherosclerosis	Yes	Yes
3	Loss of libido	Yes	Yes
4	Weakness	Yes	Yes
5	Foul smell of body	Yes	Yes
6	Sweating	Yes	Yes
7	Polyphagia (Over eating)	Yes	Yes
8	Polydipsia	Yes	Yes
9	--	Polyuria	Yes
10	--	Ants get collected at the site of urine	Yes
11	--	--	FBS, PPBS Raised
12	--	--	May lead to Nephropathy
13	--	--	Retinopathy
14	--	--	neuropathy

The above table indicates that the obesity, if untreated, may lead to prediabetes and later it may be converted into Diabetes. Therefore to stop diabetes it is necessary to control it at its primary level i.e. obesity and give up the causative or aggravating factors responsible for conversion of prediabetes to diabetes.⁶

CONCLUSION:

References regarding *prameha* can be obtained from *veda*, *purana* and other literary works. It is elaborately mentioned in Ayurvedic treatises as enumerated. An efficient physician should know these basic concepts and with this knowledge, he can easily do the *samprapti vighatana*.

As part of the continuous process to find out the best remedy for dreadful diseases like Diabetes occupying the whole world, it is customary to think about the pre-diagnosis of the diabetes i.e. Prediabetes.

Thus, the rationale behind treatment of prediabetes includes, prevention of development of diabetes & its complications. The main stay in controlling the conversion of Prediabetes to Diabetes is understanding the pathogenesis of Obesity with Ayurvedic perspective in order to break the pathophysiology (Samprapti) of the disease. Thus, to check & get rid of the forthcoming dreadful pathology of diabetes it is necessary to change the life style along with the support of proper diet & effective medication. Therefore, most of the published literature also suggests the targeted physical exercise, Yoga, Diet & proper medicines to stop the conversion of prediabetes to diabetes.

At present there is no concrete evidence to formulate clinical guidelines for treatment of prediabetes. Life style

interventions remain an essential part of the management of prediabetes. The use of pharmacotherapy should be on an individual case based approach.

Therefore as a part of application of pharmacotherapy, Ayurvedic principles for the treatment of 'Atisthaulya' & Kaphaja prameha should be judiciously applied to treat prediabetes to stop its conversion to diabetes.

Further clinical studies & statistical data analysis may explore the concept.

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