



## AYURVEDIC APPROACH TO TYPE-I DIABETESMELLITUS

Dr. Deeksha Katna\*<sup>1</sup> and Dr. Neelesh Patil<sup>2</sup><sup>1</sup>PG Scholar, Dr. D.Y. Patil College of Ayurved & Research Centre, Pimpri, Pune; Dr. D.Y. Patil Vidyapeeth- Deemed to be University, Pimpri, Pune-411018.<sup>2</sup>Associate Professor, Dr. D.Y. Patil College of Ayurved & Research Centre, Pimpri, Pune; Dr. D.Y. Patil Vidyapeeth- Deemed to be University, Pimpri, Pune-411018.**\*Corresponding Author: Dr. Deeksha katna**

PG Scholar, Dr. D.Y. Patil College of Ayurved &amp; Research Centre, Pimpri, Pune; Dr. D.Y. Patil Vidyapeeth- Deemed to be University, Pimpri, Pune-411018.

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**ABSTRACT**

In the recent years, prevalence of auto-immune disorders have sky-rocketed like never before. In Type-1 DM, there can be many contributing factors leading to genetic disturbances which ultimately results in destruction of beta-cells of islets of langerhans of pancreas. This leads to insufficient production of insulin in response to the rise in glucose level due to normal metabolism of food taken. The condition is usually diagnosed in children and young people, so it used to be called juvenile diabetes. Since according to Ayurveda, there is "beeja-dushti", it can be prevented by following proper diet and lifestyle, rutuanusar shodhan, and, taking regular rasayana after that. Moreover, taking proper care of the body and doing internal purification, pre-conception and during ante-natal period, play a huge role in prevention of the disease. Even after the person has acquired Type-I DM, apart from administration of some rasayana and ayurvedic aushadi (tikta-kashaya pradhan), regular internal purification has its major role in the management of Type-I DM.

**KEYWORDS:** Type-I DM, agni, bala, auto-immunity, beeja-dosha, gene, dhatu-paaka, dhatu-kshaya,  $\beta$  cells, pancreas, insulin.

**INTRODUCTION**

Diabetes mellitus can be defined as a chronic state of hyperglycaemia, which can further cause damage to retina, kidney, nerves and arteries, in the long run. In recent years, there is rise in incidence of both types of DM. According to study in 2020, prevalence rate of Type-I DM is 9.5% worldwide. Analogously, in India, more than 1 million new cases of Type-I DM are seen every year. One in six people with diabetes in the world is from India. Type-I DM or, Juvenile diabetes, has affected mass number of children, with rapidly increasing incidence rate by 3%/year, especially in developing nations like India. Out of all the states, Kerala is called the "Diabetes Capital Of India", with a prevalence of 20% -double than that of national average of 9.3%. According to recent studies, prevalence of juvenile DM is not rare in India, as the reported cases are much higher than many other Asian countries. The main reason behind this escalation is "gramya ahaara-vihara", that is, over-consumption of processed food and sedentary lifestyle.

Type-I DM, or, insulin-dependent DM, occurs as a result of auto-immune events leading to destruction of insulin-secreting  $\beta$  cells of the islets of Langerhans in the

pancreas. Profoundly, IDDM1, present on DQB1 gene, and IDDM2, present on insulin gene (INS), located on chromosome 6 & 14 respectively, play critical role among 20 other genetic loci related to Type-I DM. This clear evidence of "beeja-dosha" proves that there have been continual deep rooted depletion of dhatu because of the impaired agni, successively, jatharagni, dhatwagni & bhootagnilevel. This leads to dhatu-paaka (destruction of  $\beta$  cells) and finally dhatu-kshaya (insufficient insulin-producing cells). Agni is usually compared to immunity. Impairment in agni causes body's own immunity to attack against body's own cells resulting in auto-immune disease like Type-I DM. Viruses like mumps, cytomegalovirus, rubella etc., may act as a trigger for diabetes, causing selective B-cell injury. Almost 2/3 rd of the newly diagnosed cases are reported to have antibodies against encoded by retroviral RNA. Vaccinations are also reason behind it. This shows that already impaired "sahaja-bala" due to beeja-dosha, is collaborated with "yuktikrita-bala", both adversely affecting body's own cells.

**AIMS**

To explore the relevant Ayurvedic approach to autoimmune disorder (TYPE-I DM)

**OBJECTIVES**

To review the Ayurvedic approach to autoimmune disorder (TYPE-I DM) Therapeutic management of Juvenile diabetes.

To provide collective data for further study and constructive work in the context of auto-immune disorders.

**MATERIALS AND METHODS****Classical and modern text books**

Internet sources: Research Articles and Journals Health Magazines  
News Paper

**Contributing Factors in Pathogenesis**

- A. Genetic factors
- B. HLA
- C. Insulin-VNTR
- D. CTLA-4

Other genetic associations (PTPN22, AIRE, FoxP3, STAT3, IFIH1, HIP14, ERBB3) Epigenetic factors.

Environmental factors

Viruses (rubella, enteroviruses)

Diet (cow's milk, cereals, omega-3 fatty acids)

Immunologic factors- Immune tolerance (central, peripheral, Tregs), Cellular immunity, Humoral immunity (GAD65, IA-2, IAA).

**Diagnosis**

Cardinal Symptoms Premonitory symptoms- Sweating (Subjective).

Foul body odour-(Subjective) Looseness of body (Subjective) Tendency to rest (Subjective) Heaviness of body.

General etiological factors-Carbohydrate rich diet.

Fat rich Diet Sedentary Habits Lack of Exercise Stress

**Hereditary factors**

Known DM in first degree relative Known DM in Second degree relative Known DM in distant degree relative

**Samprapthi-ghatakas**

Dosha (humur) – vata, pitta, kapha

Dushya

meda, mamsa, kleda, rakta, vasa, majja, lasika, rasa, shukra and ojas Srotas (channel) – mootravaha

Srotodusti – atipravrutti

Agni – dhatvagni Udhbhavasthana – kostha

Vyaktasthana – mootravaha srotas (urinary tract)

**Samprapti**

Faulty diet and lifestyle of parents (matrija-pitraja mithya ahara-vihara) -> agni-dushti -> dhatu-paaka (destruction of body's own cells) -> vitiation of rasadi dhatu (dhatu-

kshaya) -> vitiation of beeja -> Defective geno-organogenesis -> Development of variety of systemic, developmental and endocrinal diseases.

**Diagnostic criteria**

रसादिभिश्च संसृष्टं कुर्याद्रोगान् रसादिजान्॥४९॥ (ch.chi.15/49)

Certain biomarkers like immune complexes ~ aama Oxidized LDL - cholesterol ~ saama meda.

CRP (acute phase reactant) ~ rasa/rakta gata aama marker.

Triglycerides (chronic complications of DM) ~ biomarker for saama meda / kapha -atherogenesis.

Antibody to gastric parietal cells ➔ atrophic gastritis ➔ Amlapitta and Paandu Ghora anna visha / environmental factors, especially diet components are triggering factors in genetic predisposed persons to induce auto-immunity.

The identification of aama, cross reaction due to molecular mimicry and self to non self reaction are very crucial in auto immunity. Identification of aama by vaayu, molecular mimicry by kapha and self to non self reaction by pitta and eventually initiation of auto immune induced disease process is concerned with tridosha.

**Chikitsa-Approach**

It is not intended for mere reduction of glucose level Correct the basic metabolic error (agni-saamyas) Prevent / delay the onset of complications.

Bala/oja-samyata Manasika

Ahar- vihara

Avoid unnecessary vaccination.

Countering Saamta - katu and tikta dravya (vaayu, agni and aakaasha mahaabhoota)

**Preventive aspect**

Lifestyle correction Pre-conceptional care Ante-natal care

**Yapya/curative/management aspect**

Internal Purification – Panchakarma

Internal And External Medicines – Ousadha Rejuvenation- Rasayana

Diet- Ahara Exercise - Vyayama

**External Applications**

In different stages of DM Udvarthana - Massage with Powder.

Takradhara - Head Shower with medicated buttermilk ksheera dhara - Shower with medicated milk.

**Oil massage****Drugs & their properties which work for Type-I DM**

DRUG	PROPERTIES (That work for Type-I DM)
Haritaki	Deepana (appetizer), Medhya (nootropic), Rasayana(rejuvenator), Chakshushya, Anulomana
Vijaysaar	Maha-ghan, Rasayan , Katu-Kashaya, Tikta, Pachniya,Sarak
Amrita	Tridosahara, Deepana (appetizer), Rasayana(rejuvenator), Grahi, Chakshushya, Medhya (nootropic)
Aamlaki	Rasayana(rejuvenator), Vrishya(aphrodisiac),Chakshushya,Deepana (appetizer)
Pippali	Deepani, Vrishya, Rasayani,Vaat- shleshmahari
Patola	Vrishya, Agni-deepana, Dosh-traya-haram, Pachana,Moolam- Virechanakaram sukhat, Tikta
Kiraatatikta	Saraka , Ruksha, Tikta, Kapha-pittanut
Shunthi	Pachani, Vrishya, Grahi
Kumaari	Bhedani, Balya, Vrishya ,Vaat-visha-pranut, Tikta ,Rasayani
Ashwagandha	Anila-shleshma-kshayapaha,Rasayani,Bala,Tikta-kashaya, Ati-shukrala
Shataavari	Balya (improves strength), Rasayana(rejuvenator), Netrya, Shukrala, Stanyakara
Bala	Balya(improves strength), Vrishya (aphrodisiac),Grahi, Brimhana, Prajasthapana

**RESULTS AND DISCUSSION**

Analysis of the compiled data shows that,since there has been tremendous rise in auto- immune disorders (Type-I DM) in recent years. Through Ayurveda, we can prevent as well as give manageabletreatment to give quality life to patient of Type-I DM.

In Ayurveda, Type- I DM is disorder, which needs to be prevented by shodhan and managed by doing agni-samyata.

**CONCLUSION**

Ayurveda does not consider diabetes mellitus as a disease that can be treated by mere medicine or by a dietary regimen. Though it is a yapya (not totally curable / difficult to cure) disease, the following of the ayurvedic ways. Prevention is the key given by ayurveda.

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