



Case Report

ISSN: 2454-5023
J. Ayu. Herb. Med.
2020; 6(2): 66-68
© 2020, All rights reserved
www.ayurvedjournal.com
Received: 21-01-2020
Accepted: 13-03-2020

Ayurvedic Management of Type-2 diabetes mellitus on Insulin- A Case Study

Dimpal Gill^{1*}, Raja Ram Mahto², Rama Kant Yadava³

¹ MD Scholar, Kaya Chikitsa, All India Institute of Ayurveda, Gautampuri, SaritaVihar, New Delhi 110 076, India

² Assistant Professor, Kaya Chikitsa, All India Institute of Ayurveda, Gautampuri, SaritaVihar, New Delhi 110 076, India

³ Associate Professor, Head of the department, Kaya-Chikitsa, All India Institute of Ayurveda, Gautampuri, Sarita Vihar, New Delhi 110 076, India

ABSTRACT

Background: This case report is based on our experience to treat, with Ayurveda drugs, a case of diabetic type -2 who was put on insulin and how Ayurvedic treatment has given him relief and maintain normal glucose levels with no associated complications. **Brief case report:** A 38 year's male patient with clinical history of DMT2. Who was taking 32(20/12) units of insulin/day in 2 divided doses. The *prakriti* (nature) of this patient was *Kapha-Pitta*. By considering the *Dosha* and *Dusya*, a judicial combination of 4 primary Ayurveda drugs- *Gudmar*, *Jamun*, *Nagarmotha*, *Sudarshan* was advised to take orally in morning and evening with lukewarm water. **Observations:** At the beginning, his HbA1c was 11.1%. and after taking the prescribed Ayurvedic treatment along with insulin for 12 weeks, his HbA1c level reduced to 5.6%. At this stage, the insulin was withdrawn and patient continued on Ayurvedic treatment and monitored on weekly interval. After the Ayurveda treatment, need of further insulin or oral hypoglycemic agent drugs was not felt. His HbA1c was regularly monitored and it has come to normal range with improved quality of life. **Conclusion:** The prescribed combination of 4 drugs showed good response by maintaining normal blood sugar levels in DMT2 case, even after withdrawing insulin after 12 weeks of initial ayurvedic treatment. However, if this study is conducted in large number of patients it would help to understand the public health significance of this finding.

Keywords: IDDMT2, HbA1C, Insulin, Ayurveda drugs, *Dosha-dushya*.

INTRODUCTION

Diabetes Mellitus is emerging as one of the most confronting diseases to humanity and one of the leading causes of morbidity [1]. The prevalence is found to be 7-3% [2]. The burden of diabetes in India is fast growing with 61 million Diabetics aged (20-79) years [3-4]. The major contributions in this scenario may be due to changes in dietary regimes, change in lifestyle, work related stress etc. Therefore, for a diabetic person who needed insulin is a conditions that complicates other health issues too and thus management is difficult. Ayurvedic medicines have hopes in such patients of DMT2 who can become free from insulin [5].

METHODS

❖ **Settings and Study location:** The study was conducted at the diabetes and metabolic disorder care unit of *Kaya Chikitsa* department in the year 2016-17. The patient came to OPD and requested to get treated for his uneasy mental and physical status due to daily insulin injections and was admitted following the norms of the institute.

CASE PRESENTATION

Patient had complaints of increased frequency of urination, generalized weakness, lethargy, excessive sleepiness and body ache. On the advice of his friend, he got his random blood sugar (RBS) tested and found it to be 480 mg/dl. He then went to tertiary care hospital at New Delhi and was diagnosed to be suffering from diabetes mellitus (DM) Type 2 by an endocrine specialist. At this time, he had fasting blood sugar levels (mg/dl) of 321, post-prandial levels of 372 and HbA1c levels of 11.1%. The patient was initially taking 20(12/08) units of insulin per day for 3 weeks but insulin dose was increased to 32(20/12) units per day after one month due to lack of relief. After 1 month, patient was evaluated and advised to continue the same insulin treatment. Patients was panicked due to daily administration of insulin and looked for the alternative therapy to get rid of daily insulin therapy and thus visited OPD for Ayurveda treatment.

*Corresponding author:

Dr. Dimpal Gill

MD Scholar, Kaya Chikitsa, All India Institute of Ayurveda, Gautampuri, SaritaVihar, New Delhi 110 076, India

Email: drdimpalgill[at]gmail.com

EXAMINATION

The patient was evaluated following Ayurveda principle (*Roga-priksha* and *Rogi-pariksha*) using conventional method (WHO criteria of DMT2) and diagnosed having classical features of *Madhumeh* (diabetes mellitus): severe nerve block pain in calf muscle (*Pindikodeveshtan*), [Visual Analogue Scale (VAS) score = 8], *Prabhutmutrata* (polyuria)– [urine volume >4litres per day], frequency of daytime urination > 7; nighttime frequency of urination ≥ 3 , dryness of mouth with difficulty while speaking, excessive thirst especially just after urination, *Alasya* (fatigue), irritability, daytime excessive sleepiness [used to fell asleep even while in a meeting or sitting in a crowd]; mild-to-moderate headache, liking of cool environment. Prior to diagnosis of DM, he had been suffering from severe mental agony and stress at work-place. The Ayurvedic assessment revealed the prominent *dosha* of the disease to be *Pitta-Kaphavrit-Vata* with *dushya* - *Meda, Kleda, Vasa, Ambu* and *Ojas* and the status of *Agni* was *dhatu -agnimandya*. The characteristic prakriti to be *Kapha-Pitta* and *Sthula* in nature. The state of the disease was still in *Kapha* predominance that is specified in the early onset of its nature.

Ayurvedic Treatment

Based on the examination, following line of treatment was adopted

Jamun (*Syzygium Cumini*): According to Ayurveda, *Jamun* is the best *vatakar* [6] and its *Kashaya* property possess *sangrahi* and *sharerkledopyokta* (decreases fluidity) [7] and thus to reduce the frequency of urination. *Jamun* seeds contains a glycoside (Jamboline) which supports pancreatic health, immunity and strengthen defense mechanism of body [8] and due to high concentration of tannic and gallic acid, it helps in digestion [9].

Sudarshan churna (*Crinum latifolium*) [10]: It removes the obstructions along the dominant pathway for nutrients to cells enabling to stimulate insulin receptors in cell walls and promotes its entry into the cell. Inside the cell, insulin reaches mitochondria to take part in cell metabolism with the generation of ATP which gets converted to body energy [11] and thereby increasing the level of *bala* (*oja* or immunity) and increases working capabilities.

Gudmar stimulates the secretion of insulin, rejuvenates the process of generating β -cells and produces insulin and increases utilization of glucose [12].

Nagarmotha (*Cyprus rotundus*) was used to reduce the levels of *kleda* (Fluid) and *meda* (Fat) due to its *lekhan* property, it reduces fat and fluid in the body [13].

Ayurveda Treatment Execution And Outcome

Initially the patient was administered with *Pramehaghna* (anti-diabetic) herbal drugs along with insulin therapy to control and to wait until normal serum blood sugar levels are achieved to help to taper the dose of insulin. So, the patient was given combination of *Jamun beej churna* - 3gm, twice daily along with *Gudmarpatra churna* -5 gm, twice daily before meal. Also, *Nagarmotha churna* - 3 gm along with *Sudarshan churna* - 3 gm, after meal for 1 month. In second month, *Amla churna* - 5 gm with luke warm water (as *anupan*) was replaced for *Nagarmotha churna* for accelerating the *pachan* (to enhance the rate of drugs

absorption) and quality of life. At the end of 3rd month, *Sudarshan churna* was replaced by *Giloy churna*- 3 gm twice daily (after breakfast & after dinner). Patient was also advised 45 minutes of morning brisk walk every day.

At the time of reporting for Ayurveda treatment (AIIA), the serum blood sugar fasting (SBSF) and serum blood sugar post-prandial (SBSP) levels were reported to be 172mg/dL and 196mg/dL respectively with glycated hemoglobin (HbA1c)= 7% and the ongoing insulin level of 32(20/12) units/day. Patient was advised to continue the current treatment alongwith prescribed Ayurveda drugs. After a period of 6 weeks, the SBSF level was declined from 172 to 150mg/dL. At this stage, the insulin dose was tapered first time to 16(10/06) unit/day and continued for 8 weeks, that helped achieving lower levels of SBSF and SBPP to 107mg/dL and 149mg/dL respectively. The patient also reported reduction in the intensity of the associated symptoms. After 12 weeks, HbA1c level reached 5.6%. Hence insulin intake was completely withdrawn but Ayurveda regimen of 4 drugs continued. Since patient's general health conditions were improved he was advised to continue on same drugs schedule up to the end of 6thmonth. At the end of 6th month, patients got complete relief from all the symptoms reported at time of admission. Examination at the end of 9th month found him maintaining normal health. So, the Ayurvedic treatment continued further. (Refer the Fig 1a,1b,1c).

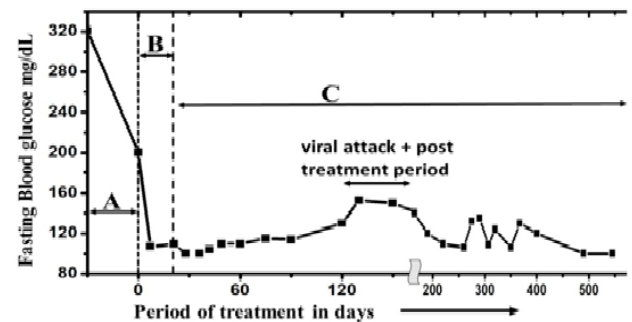


Figure 1a: Variation of fasting blood glucose levels during the course of treatment. period marked by A: treatment with Insulin only outside AIIA, Period marked by B: treatment by a combination of insulin and Ayurveda drugs at AIIA; and period marked by C: treatment by Ayurveda drugs only.

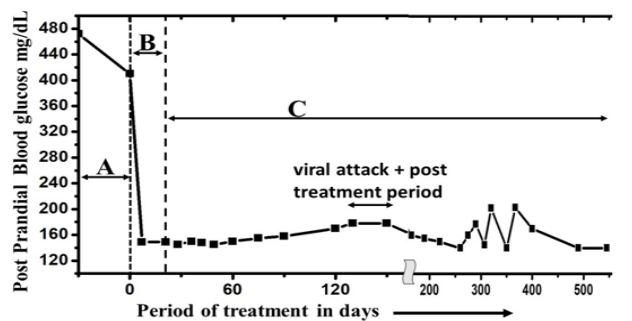


Figure 1b: Variation of post-prandial bloodglucose levels during the course of treatment. period marked by A: treatment with Insulin only outside AIIA, Period marked by B: treatment by a combination of insulin and Ayurveda drugs at AIIA; and period marked by C: treatment by Ayurveda drugs only.

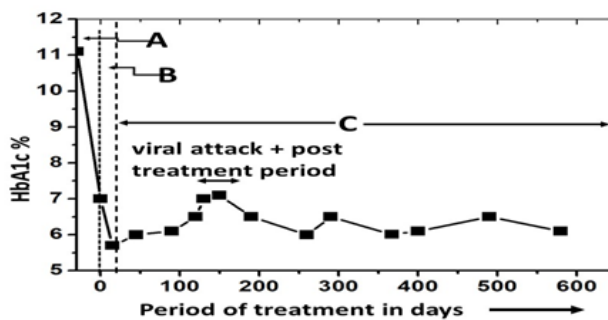


Figure 1c: Variation of HbA1c during the course of treatment. period marked by A: treatment with Insulin only outside AIIA, Period marked by B: treatment by a combination of insulin and Ayurveda drugs at AIIA; and period marked by C: treatment by Ayurveda drugs only

DISCUSSION

A patient with high blood glucose levels for 2 months and administering 32 units of insulin daily has been treated with Ayurvedic treatment as described above. To start with, *Jamun beej churna* (3gm twice daily), *Gudmar patra churna* (5 gm twice daily) each before meal and *Nagarmotha churna* (3 gm after meal) with *Sudarshan churna* (3 gm, for 2 months) to enhance the rate of drugs absorption and to achieve improvement in quality of life was suggested. At the end of 3rd month, *Sudarshan churna* was replaced by *Giloy churna* (3 gm twice daily, after breakfast & after dinner). Patient was also advised 45 minutes of brisk walking every day. This has resulted in achieving normal blood glucose levels, HbA1C and improved quality of life as indicated in major Ayurveda parameters (*Roga, Agni, Deha and Chetas- bala*). However, the patient had one episode of viral fever and the associated symptoms during the course of treatment, which was managed well by administering *Punarnava Mandoor* and *Gokshuradi Gugulu* both (500 mg, twice a day, After breakfast and after dinner for 7 days). There after patient is living well and living normal health and continuing only on Ayurvedic drugs and thus modern treatment along with insulin was completely withdrawn.

CONCLUSION

These observations clearly indicate that how a patient of diabetes mellitus Type-2 and receiving insulin, can get rid of insulin along with the burden of modern medicine and can maintain normal blood glucose levels and sustained such effect in managing DMT2 by ayurvedic herbal drugs alone and live normal energetic life. However in larger public interests, it is suggested that the judicious combination of *Gudmar, Jamun, Nagarmotha, Sudarshan/Giloy churna*, may be put on clinical trial study to assess its impact on DMT2.

Conflict of interest

The authors have no conflict of interest for this study.

Acknowledgement

Authors thankfully acknowledge Prof. Tanuja Nesari, Director, AIIA for constant encouragement in carrying out the study. Dr. Anil Kumar, Research Advisor for support in editing this report. Authors also extended their thanks to the patient for his cooperation during this case study.

REFERENCES

- Global Burden of Metabolic Risk Factors for Chronic Diseases Collaboration. Cardiovascular disease, chronic kidney disease, and diabetes mortality burden of cardiometabolic risk factors from 1980 to 2010: a comparative risk assessment. *Lancet Diabetes Endocrinol* 2014; 2:634–47.
- Ranjit Mohan Anjana, Mohan Deepa, Rajendra Pradeepa, et al., Prevalence of diabetes and prediabetes in 15 states of India: results from the ICMR–INDIAB population-based cross-sectional study, *The Lancet, Diabetes & Endocrinology*, Volume 5, No. 8, p585–596, August 2017. DOI: [https://doi.org/10.1016/S2213-8587\(17\)30174-2](https://doi.org/10.1016/S2213-8587(17)30174-2).
- Joshi SR, Parikh RM. India-diabetes capital of the world: now heading towards hypertension. *J Assoc Physicians India*. 2007;55:323-4.
- Kumar A, Goel MK, Jain RB, Khanna P, Chaudhary V. India towards diabetes control: *Australas Med J*. 2013;6(10):524-31.
- Tag H1, Kalita P, Dwivedi P, Das AK, NamsaND. Herbal medicines used in the treatment of diabetes mellitus in Arunachal Himalaya, northeast, India. *J Ethnopharmacol*. 2012 Jun 14;141(3):786-95. doi: 10.1016/j.jep.2012.03.007. Epub 2012 Mar 13.
- Acharya Sharma RK, Dash VB, editor. *Charaka Samhita of Charaka, Sutrasthana*; chapter 25, verse 40. Vol I. Varanasi: Chowkhamba Sanskrit series, 2016. p. 425. reprint 2016.
- Acharya Sharma RK, Dash VB, editor, *Charaka Samhita of Charaka, sutra sthana*; chapter 26, verse 43. Vol I. Varanasi: Chowkhamba Sanskrit series, 2016. p. 469. reprint 2016.
- Muniappan A, Babu S. pandurangan, *Szygium Cumini (L.) Skeels*; A Review of its phytochemical constituents and traditional uses, *Asian Pac J Trop Biomed* 2012;2(3):240-246.
- Jagetia GC. Phytochemical of jamun Phytochemical Composition And Pleotropic Pharmacological Properties of Jamun, *Szygium Cumini Skeels*. *J Explor Res Pharmacol* 2017;2(2):54-66. doi:10.14218/JERP.2016.00038.
- Acharya Tripathi Brahmanand, editor, *Sharangdhara Samhita, Madhayamakhand*; chapter 6, verse 27-37. Varanasi: Chowkhamba Surabharati Prakashana.
- Mitochondria and insulin The role of mitochondria in insulin resistance and type 2 diabetes mellitus; szendroedi J, et al *nat rev endocrinol*. 2011
- Anane HA, Huang GC, Amiel SA, Jones PM, Persaud SJ, : Stimulation of insulin secretion by an aqueous extract of *Gymnema sylvestre*: role of intracellular calcium. 2005, 10 DP1.
- Acharya Sharma RK, Dash VB, editor, *Charaka Samhita of Charaka, sutra sthana*; chapter 25, verse 40. Vol I. Varanasi: Chowkhamba Sanskrit series, 2016. p. 426. reprint 2016.

HOW TO CITE THIS ARTICLE

Dr. Gill D, Dr. Mahto RR, Dr. Yadava RK. Ayurvedic Management of Type-2 diabetes mellitus on Insulin - A Case Study. *J Ayu Herb Med* 2020;6(2):66-68.