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Research Article

CLINICAL STUDY OF *AMRITA-SHILAJIT YOGA* ON DIABETES MELLITUS: AN *RASAYANA* EFFECT

Khagen Basumatary[1]*, Sikha Lekharu[2]
*[1]Professor and HOD, [2]PG Scholar, Department of Samhita and Siddhanta, Govt. Ayurvedic College & Hospital, Guwahati, Assam, India.

KEYWORDS: *Amrita-Shilajit Yoga, Madhumeha,* Diabetes Mellitus, *Rasayana* Effect.

***Address for correspondence**
Dr Khagen Basumatary
Professor and HOD, Dept. of Samhita & Siddhanta, Govt Ayurvedic College, Guwahati, Assam, India.
Email: drkhagenbasumatary@gmail.com

ABSTRACT

Diabetes mellitus is globally one of the threatening disease which is creating a havoc worldwide. The oral hypoglycaemic drugs in many patients do not produce desired effects and those who respond, gradually lead to the therapeutic failure in the later stages of the disease. So, in the present situation to overcome this problem it is highly needed to break through an alternative therapy. In view of the above fact the present study was undertaken, whereby the drug taken was *Amrita-Shilajit yoga*, as a combination drug having *Rasayana* properties and the subjective parameters taken for assessing was Agni and *Ojas*, along with objective, laboratory parameters like Fasting Blood sugar and Post prandial sugar for evaluating the benefits of the drug in Diabetes Mellitus. Three groups were taken (n=30, 10 for each group). Group A, receiving *Amrita Shilajatu yoga*, Group B receiving modern drug and Group C receiving both the drug. In case of group A mean reduction of all the clinical parameters are more than that of Group B. Statistically significant improvement was observed in objective and subjective parameters in all 3 groups after completion of the course of treatment. The present study not only corrects the metabolic error by maintaining the *Agni* in equilibrium but also overcomes its various complications by stabilizing the status of *Ojas* in NIDDM patients.

INTRODUCTION

Incidence of Diabetes mellitus is increasing day by day and present day civilisation use of diet rich in carbohydrates and fat with lack of physical labour and excessive mental stress and strain is often supposed to be responsible for it. Although the exact aetiopathogenesis of this disease is yet to be defined, the major morbidity swings around the problems related to insulin resistance. The altered immune function is also considered to be contributory factor. Regarding management the challenge for the medical profession has also increased not because of, we are unable to control the anomalies of carbohydrate metabolism, the chief derangement of the disease with the available drugs, but because of the complications which are difficult enough to be controlled inspite of full control of sugar metabolism.

Although the number of patients of Insulin Dependent Diabetes is very small but their prognosis is bad because of a very limited choice of treatment. In case of non-Insulin dependent Diabetics the introduction of oral hypoglycaemic drugs in modern medicine few decades back brought a big hope for diabetics but the experiences of past few decades with the use of this category of drugs have revealed many limitations such as drug resistance and major adverse effects. The oral hypoglycaemic drugs in many patients do not produce desired effects and those who respond, gradually lead to the therapeutic failure in the later stages of the disease. So, in the present situation to overcome this problem it is highly needed to break through an alternative therapy with alternative approaches to the management of Diabetes Mellitus.

The alternative medicines like *Ayurveda,* Unani, Naturopathy and Yoga all are examined for its role in the management of Diabetes. Among them Ayurveda is supposed to offer a holistic approach towards the disease, being one of the ancient systems of medicine in the world. All the Ayurvedic classics describe Diabetes Mellitus in different forms of *Prameha* and *Madhumeha*. As per Vagbhata all *the Pramehas* if left untreated is eventually converted to *Madhumeha* and therefore all the *Prameha* is known by the word *Madhumeha*. Because all types of *Prameha* patients in its initial stages pass sweet urine like honey and the Rasa of that individual becomes sweet and that's why is converted into *Madhumeha*. As

all the aetiologies, pathogenesis and principle of treatment of *Madhumeha* described in Ayurveda are comparable with Diabetes Mellitus of modern medicine and as *Prameha* is also known by the name *Madhumeha, Prameha* is likely to be the synonym of Diabetes Mellitus.

In Ayurveda, Diabetes Mellitus is classified into two types. [8]-

1. *Sahaja* (hereditary)- The disease is associated in those patients genetically since birth. It can be compared to Juvenile Diabetes or Insulin Dependent Diabetes.
2. *Apathyanimittaja* (acquired)- It is due to faulty lifestyle and the disease manifests in the later stage of life. It can be compared to Non-Insulin Dependent Diabetes.

Ayurvedic texts emphasized the role of two important factors viz. *Agni* and *Ojas* in the context of the disease phenomenon of Diabetes and its manifestation[5]. Agni and *Ojas* are two very unique concepts presented in Ayurveda entirely from a very new angle. Agni refers to the system of biofire present in the body, which is responsible for the entire phenomenon of tissue metabolism, assimilation and transformation of nutrients at molecular levels. The metabolic anabolies as accounted in diabetic patients associated with inadequacy of Insulin system could also be considered as errors of *Agni* system. Diabetes can be considered as an outcome of the depletion of certain aspects of *Agni* and accordingly attempts of restoration of the particular *Dhatvagni* would be logical approach to the treatment of Diabetes. Also Ayurveda propounds an equally important interpretation of *Ojas*. It is the quintessence of all the *Dhatus* of the body and is responsible for the biological strength and the immune defense of an individual. The Ayurvedic texts states that there is depletion of *Ojas* in case of *Madhumeha* i.e., Diabetes. Therefore in the management of Diabetes logically appropriate measures to restore *Ojas* in the body must be incorporated.[7]

It is in view of the facts mentioned above that the present investigation was undertaken where the drugs selected may possess some properties which promote the Agni and *Ojas* of a diabetic person besides simultaneous therapeutic rectification of the metabolic error. The selected drugs Amrita and *Shilajatu* possess *Katu, Tikta, Kashaya rasa* and both of them have *Rasayana* property and *Ojovardhaka*[5]. Moreover Amrita possesses *Dipan, Pacan* and immunomodulatory effect. In logical sense these drugs are expected to promote *Agni* and *Ojas* besides their direct *Yukti* on reduction of the *Madhura rasa* i.e. Sugar due to *Tikta rasa* which is opposite in nature. Adopting the above hypothesis the present study was done to evaluate the effect of the selected Ayurvedic formulation using appropriate clinical and laboratory parameters, to assess the effect of the treatment given on the status of the *Ojas* and the state of *Dhatu samya* such as correction of blood sugar levels.[7]

Aims and objectives

1) In the present study, assessment of drug (*Amrita – Shilajatu yoga*) response was done in terms of clinical symptoms of diabetes and status of *Ojas*.
2) Laboratory observation in terms of fasting and Post prandial blood sugar at monthly interval and serum cholesterol before and after the treatment.

Material and method

Trial drug

In the study, *Amrita – Shilajatu yoga* was selected as trial drug in the management of *Prameha* vis-à-vis Diabetes mellitus. amrita and *Shilajatu* are well known for their *Rasayana* and *Prameghna* property.

Dosage and duration of therapeutic trial

The *Vati* prepared from *Amrita* and *Shilajatu* was given 9 tabs daily in three divided doses for 3 (three months).

Selection of patients

- 40 patients of DM were selected from the OPD of Dravyaguna department (Diabetic clinic) and from the OPD and IPD of Kayachikitsa, S.S. Hospital, Banaras Hindu University.
- All were known cases of diabetic patients.

Inclusion criteria

- Patients having classical symptoms of Diabetes and uniequivocal blood sugar elevation.
- Increased fasting blood sugar ≥110 mg/dl more than two occasions.
- Increased post prandial blood sugar ≥ 140mg/dl

Plan of the study

All the 40 patients were registered for the study after clinical and laboratory examination. Out of the 40 patients, 30 turned up for full follow up. All the diagnosed patients were divided into 3 groups nd following therapy was given.

Group	Criteria	Therapy
A	Those NIDDM patients who were controlled by modern drug and were registered for the trial drug	*Amrita – Shilajatu yoga*
B	The patients of NIDDM who are taking only modern medicine.	Modern drug
C	Patient of uncontrolled NIDDM with modern oral hypoglycaemic drug treated with trial drug (mixed)	*Amrita – Shilajatu yoga* with modern drug.

a) Subjective assessment

Scale of diabetic symptoms

This completely depends upon the symptomatology and its grades. Improvement in symptom is directly proportional to the improvement in the patient's condition and his metabolic state when there is a complete get rid of the symptoms, the assessment can be done quite easily. To assess the subjective feature of Diabetes mellitus, the clinical symptomatology was graded into four grade (0-3)scale on the basis of severity and duration. The change in the gradation of each symptoms was to assess the effect of given treatment. The clinical gradation of symptoms were as follows[4].

1. Polyuria

Grade	Frequency in day	Frequency at night	Volume
0	1-4	0-2	Normal
1	5-7	3-5	Excessive
2	8-10	6-8	Excessive
3	> 10	> 8	Excessive

2. Polydypsia

Grade	Frequency in day	Frequency at night (in liters)
0	Normal	1.5- 3
1	Increased but frequencies of drinking water can be controlled	3-4
2	Increased with increased frequency of water intake (approx once in 2 hours)	4-5
3	Very much increased with very frequent water intake	Excessive

3. Polyphagia

Grade	Main meals	Light breakfast	Quantity
0	1	1	Normal
1	2	2-3	Increased
2	2	3-5	Increased
3	2	>5	Increased

4. Weakness

Grade	Routine activity	Weakness
0	Normal	Without feeling of weakness
1	Normal	With feeling of weakness
2	Disturbed	With feeling of weakness
3	Bed ridden patients	With feeling of weakness

5. Cramps on walking

Grade	Cramps
0	No cramps
1	Cramps after walking 1 km.
2	Cramps after walking 1/2 km.
3	Inability to walk upto 1/2 km.

Clinical scale for grading of *Ojas*

"Tatra balena sthiraupachitamamsata sarvachestaswapratighatah swaravarnaprasado Bahya abhyantaranam cha karanamatmakarya pratipattibhabhati" [Su. Su. 15/25]

1. ***Sthira mamsa/ Upachita mamsa***
   a) Well formed musculature
   b) Normal musculature
   c) Average musculature
2. ***Swara prasad*** **(form of voice)**
   0) Balanced smooth uninterrupted voice
   1) Takes some effort to talk
   2) Delicate and shallow voice
   3) *Heena swara*, feels pain in the throat while talking and feels exhausted after a few minutes to talk
3. ***Varna prasad*** **(lustre of skin)**
   0) Lustre skin
   1) Normal skin without lustre
   2) Lack of lustre and dry skin
   3) Dry and lustreless skin.
4. ***Twak*** **(sense of touch)**
   0) No sensory loss and abnormal sensation present
   1) Burning sensation present in the extremities
   2) Tingling and burning sensation associated with numbness
   3) Marked symptoms of peripheral neuritis.
5. ***Chaksu*** **(power of vision)**
   0) Vision capacity intact
   1) Immature cataract, lustreless eyes
   2) Matured cataract with moderately reduced vision
   3) Other findings by fundoscopy, supportive of diabetic retinoscopy.
6. ***Srota*** **(sense of hearing)**
   0) Normal hearing capacity
   1) Abnormal sound heard (tinnitus)
   2) Slightly reduced power of hearing
   3) Moderate to severe loss of hearing capacity.
7. ***Jihwa*** **(sense of taste)**
   0) Can perceive all kinds of taste
   1) Reduced capacity to perceive taste
   2) Moderate loss of taste ability
   3) Severe loss of taste
8. ***Ghrana*** **(sense of smell)**
   0) Can perceive all kinds of smell
   1) Reduced capacity to perceive smell
   2) Moderate loss of sense of smell
   3) Severe loss of sense of smell.
9. ***Payu*** **(bowel function)**
   0) Intact bowel control
   1) Occasional bowel impairment
   2) Increased or decreased bowel frequency
   3) Completely altered bowel habit
10. ***Upastha*** **(*Mutrendriya* function)**
   0) Normal or intact bladder control
   1) Occasional bladder impairment
   2) Partial retention, incontinence and increased frequency of micturation
   3) Completely altered bladder function (severe polyuria/ anuria)

11. *Upastha jnanendriya* function

0) Normal libido
1) Decreased frequency with normal performance
2) Decreased frequency with inefficiency to perform sexual act
3) No sexual stimulation at all

12. *Mana* and *Buddhi* (Pshychological status)

0) Psychologically well balanced
1) Looks worried, gets angry very frequently
2) Associated with either depression or anxiety
3) State of psychological instability.

13. *Bala* (physical strength)

0) Can perform excessive work without getting fatigue
1) Can carry out routine activity without getting fatigue
2) Perform routine activity with fatigue
3) Difficulty to perform and cannot perform routine activity.

14. Disease propensity

0) Rarely get minor ailments
1) History of episode of fever, cold, diarrhoea, cough, allergy.
2) Frequently gets due above ailments
3) H/O major illness such as T.B, chronic fever, Recurrent infection etc

b) Objective assessment

Laboratory profile

1. Blood examination
   a) Routine blood for TLC, DLC, haemoglobin percentage and erythrocyte sedimentation rate to exclude any infection.
   b) Blood urea and serum creatinine were done to assess the status of kidney in all patients.
   c) Liver function test
2. Urine examination
   For specific gravity, sugar, albumin and acetone and microscopic examination for crystals, casts and cells was also done.
3. Stool examination
   To rule out worm infestation and presence of occult blood if any.
4. E.C.G

Observation and results Of subjective parameters

A. Incidence of clinical symptomatology in 30 cases of NIDDM

Symptoms	No. of patients	Percentage
Polyuria	25	83.33
Polydypsia	9	30.00
Polyphagia	23	76.67
Weakness	27	90.00
Cramps on walking	26	86.67

Incidence of clinical symptomatology in 30 cases of NIDDM showed 83.33% had polyuria, 30.00% had polydypsia and 76.67 % had polyphagia.

B. Effect of treatment

1) On polyuria (n=30, each group 10)

Groups	Mean ± SD					Paired 't'
	BT	F_1	F_2	F_3	BT-AT	
Group A (n=10)	1.5 ± 0.85	1.0 ± 0.81	0.9 ± 0.74	0.6 ± 0.52	0.9 ± 0.74	t = 3.91 p < 0.01
Group B (n=10)	1.6 ± 0.84	1.1 ± 0.74	0.9 ± 0.57	1.0 ± 0.66	0.6 ± 0.52	t = 3.75 p < 0.01
Group C (n=10)	2.0 ± 0.82	1.4 ± 0.52	1.0 ± 0.47	0.8 ± 0.63	1.2 ± 0.79	t = 4.8 p < 0.001

The rate of shift was statistically highly significant (p<0.01) for group A, (p<0.01) for group B, (p<0.001) for group C.

2) On polyphagia (n=30, each group 10)

Groups	Mean ± SD					Paired 't'
	BT	F_1	F_2	F_3	BT-AT	
Group A (n=10)	1.1 ± 0.88	0.9 ± 0.57	0.8 ± 0.42	0.7 ± 0.48	0.4 ± 0.70	t =1.82 p > 0.05
Group B (n=10)	0.9 ± 0.74	0.7 ± 0.48	0.6 ± 0.69	0.7 ± 0.67	0.2 ± 0.42	t = 1.53 p > 0.05
Group C (n=10)	1.3 ± 0.95	1.0 ± 0.67	0.9 ± 0.57	1.0 ± 0.66	0.3 ± 0.48	t = 2.0 p > 0.05

The rate of shift was statistically insignificant (p>0.05) for group A, (p>0.05) for group B, (p>0.05) for group C.

3) On polydypsia (n=30, each group 10)

Groups	Mean ± SD					Paired 't'
	BT	F_1	F_2	F_3	BT-AT	
Group A (n=10)	1.2 ± 0.79	0.7 ± 0.48	0.6 ± 0.52	0.5 ± 0.53	0.7 ± 0.67	t = 3.3 p < 0.01
Group B (n=10)	1.3 ± 0.95	0.9 ± 0.57	0.6 ± 0.52	0.7 ± 0.48	0.6 ± 0.70	t = 2.73 p < 0.05
Group C (n=10)	1.9 ± 0.74	1.2 ± 0.63	0.7 ± 0.67	0.6 ± 0.70	1.2 ± 0.79	t=4.8 p<0.001

The rate of shift was statistically highly significant (p<0.01) for group A, significant at (p<0.05) for group B, highly significant at (p<0.001) for group C.

4) Effect of Treatment on Weakness (n = 30)

Groups	Mean ± SD					Paired 't'
	BT	F_1	F_2	F_3	BT-AT	
Group A (n=10)	1.3 ± 0.95	0.9 ± 0.57	0.6 ± 0.52	0.3 ± 0.48	1.0 ± 0.82	t = 3.85 p < 0.01
Group B (n=10)	1.6 ± 0.70	1.2 ± 0.63	1.1 ± 0.74	1.0 ± 0.67	0.6 ± 0.70	t = 2.73 p < 0.05
Group C (n=10)	1.8 ± 0.79	1.1 ± 0.57	0.8 ± 0.42	0.6 ± 0.52	1.2 ± 0.79	t = 4.8 p < 0.001

It was statistically highly significant (p<0.001).

5) Effect of Treatment on Cramps on walking (n = 30)

Groups	Mean ± SD					Paired 't'
	BT	F_1	F_2	F_3	BT-AT	
Group A (n=10)	1.2 ± 0.79	1.0 ± 0.67	0.8 ± 0.42	0.7 ± 0.48	0.5 ± 0.53	t = 2.99 p < 0.02
Group B (n=10)	1.3 ± 0.95	1.0 ± 0.67	0.8 ± 0.79	0.9 ± 0.74	0.4 ± 0.52	t = 2.5 p < 0.05
Group C (n=10)	1.4 ± 0.97	1.1 ± 0.74	0.9 ± 0.57	0.7 ± 0.67	0.7 ± 0.67	t = 3.33 p < 0.001

For group A, statistically significant (p<0.02). It was statistically significant (p<0.05), for group B. In the Group C it was statistically highly significant.

6) On the treatment of *Ojas* (n=30, each group 10)

Groups	Mean ± SD			Paired 't'
	BT	AT	BT – AT	
Group A (n=10)	10.6 ± 4.27	7.8 ± 1.99	2.8 ± 2.62	t = 3.37, p < 0.01
Group B (n=10)	9.9 ± 2.42	8.9 ± 1.27	1.0 ± 1.56	t = 2.04, p > 0.05
Group C (n=10)	11.6 ± 4.70	7.5 ± 2.31	4.1 ± 2.64	t = 4.88, p < 0.001

The rate of shift was statistically highly significant (p<0.01) for group A, insignificant at (p>0.05) for group B,highly significant at (p<0.001) for group C.

Objective parameters

7) On the treatment on blood sugar fasting (n=30, each group 10)

Groups	Mean ± SD					Paired 't'
	BT	F_1	F_2	F_3	BT-AT	
Group A (n=10)	124.4 ± 2.17	122.90 ± 0.99	122.40 ± 0.84	122.10 ± 0.99	2.30 ± 2.41	t=3.03 p<0.02
Group B (n=10)	137.10 ± 4.89	120.00 ± 7.35	118.10 ± 8.80	115.60 ± 10.55	19.90 ± 15.98	t=3.93 p<0.01
Group C (n=10)	160.70 ± 15.87	118.70 ± 12.10	117.10 ± 14.57	114.7 ± 16.30	46.00 ± 29.20	t=4.97 p<0.001

The rate of shift was statistically significant (p<0.02) for group A, highly significant at (p<0.01) for group B, highly significant at (p<0.001) for group C.

8) On the treatment on blood sugar Post prandial (n=30, each group 10)

Groups	Mean ± SD					Paired 't'
	BT	F_1	F_2	F_3	BT-AT	
Group A (n=10)	204.10 ± 2.99	200.70 ± 4.50	200.00 ± 4.57	197.8 ± 7.33	6.80 ± 7.04	t = 3.05 p < 0.02
Group B (n=10)	242.60 ± 19.31	198.40 ± 16.31	195.90 ± 17.59	194.10 ± 19.37	48.50 ± 34.91	t = 4.38 p < 0.01
Group C (n=10)	261.10 ± 29.40	195.60 ± 16.06	193.50± 17.98	191.70 ± 20.66	69.40 ± 43.93	t = 4.99 p <0.001

The rate of shift was statistically significant (p<0.02) for group A, highly significant at (p<0.01) for group B, highly significant at (p<0.001) for group C.

DISCUSSION

The present study not only corrects the metabolic error by maintaining the Agni in equilibrium but also overcomes its various complications by stabilizing the status of *Ojas* in NIDDM patients. The ancient declaration of the scientist that it is because of *Ojakshaya*, which is the essence of all the *Dhatus* i.e., the natural immunity of the body. Acharya Sushruta has clearly depicted that if *Ojakshaya* takes place organic decay takes place. This observation of Sushruta gives guideline to proceed towards *Rasayana* therapy in case of Diabetes mellitus. Another level of glucose remains in *Ojas*. This quantum of glucose in *Ojas* if hampered then blood sugar rises i.e., DM originates. The *Oja* is expelled out of body through urinary passages by vitiated *Vayu*. This vitiation of *Vayu* is due to *Dhatukshaya* and *Ojokshaya* both. Therefore in this condition *Rasayana* therapy is the only answer for proper rescue of the disease and hence *Rasayana* drug like Amrita Shilajatu yoga was chosen. Thus apart from concept of *Agni* and *Ojha* in relation to *Ojha*, the hypoglycaemic effect of an indigenous compound drug Amrita –Shilajatu yoga and the *Rasayana* effect of drug on *Prameha* patient is also evaluated by assessing the status of *Ojas*.

Statistical evaluation was done in clinical and laboratory parameters and are represented in the tables above after calculating mean, SD, 't' and 'p' value.

In case of group A mean reduction of all the clinical parameters are more than that group B. Although group A patients were treated with oral hypoglycaemic drug and their blood sugar brought to border line before registration but other symptoms were almost as usual and it was reduced significantly after have given the trial drug which is more than mean reduction of group B.

Statistically significant to highly significant was observed in both group A and B in clinical symptoms like polyuria, polydysia, weakness, cramps on leg and insignificant in polyphagia. The most important aspect of the present study has been the evaluation of the status of *Ojas* in patients of NIDDM before and after the trial treatment based on clinical grade score developed on the basis of classical reference. The 14 point scale of *Ojas* indicates the state and integrity of all vital organs of the body. The high initial mean of these symptoms is suggestive of derangement in the status of *Ojas* before treatment. The clinically and statistically improvement indicates a state of homeostasis in the state of *Ojas* after trial therapy.

In group A improvement in terms of mean difference of 2.8± 2.62 was observed in the status of *Ojas* which is statistically highly significant. In group C more improvement in terms of mean difference of 4.1±2.64 was observed in the status of *Ojas* which is statistically highly significant. In case of group B difference in the status of *Ojas* is 1.0±1.56 which is statistically insignificant. In group A patients before treatment with trial drug their blood sugar level was brought to normal level with the treatment of modern drug and it was stopped. And after that with the treatment of trial drug slight mean reduction occurs within the normal limit also.

Regarding the blood sugar fasting initial mean and SD for group A was 120±2.17 which after 3 months of treatment came down to 122.10±0.99. The initial mean reduction was 2.30±2.41. the 't' value was statistically significant. For group B, initial mean and

SD was 137.10±4.89, after 3 months of treatment reduced to 115.60±10.55. The t value was statistically significant (t=3.93). For group C, initial mean and SD was 160.70±15.87, after 3 months of treatment reduced to114.7 ±16.30. The t value was statistically highly significant (t=4.97). the total mean reduction was 46.00±29.20 and the 't' was statistically highly significant (t=4.97, p<0.001) which is more than group A and group B that suggests the synergistic effect of both modern and trial drug.

Regarding the blood sugar post prandial initial mean and SD for group A was 204±2.99 which after 3 months of treatment came down to 197.8±7.33. The initial mean reduction was 6.80±7.04. The 't' value was statistically significant, t= 3.05. For group B, initial mean and SD was 242.60±19.31, after 3 months of treatment reduced to 194.10±19.37. The total mean reduction was 48.50±34.91. the 't' value was statistically highly significant. While in group C improvement was statistically highly significant.

In the overall observations it has been seen that more significance is seen in Group A patient than group B and in case of *Ojas* group A is statistically significant but the group B is insignificant. Regarding blood sugar in Group A although trial drug was given after controlling the blood sugar but it maintains in normal range rather than slight reduction in total mean was seen and it was statistically significant.

Thus the findings obtained suggest *Amrita – Shilajatu yoga* to be mild to moderate remedy in the treatment of *Prameha* vis-à-vis NIDDM by improving *Ojas* and Agni. The trial therapy is more effective in group C patients where the trial drug was continued with the ongoing modern treatment.

CONCLUSION

Amrita – Shilajatu yoga has been selected as a trial drug keeping in view of its potential influence to Agni and *Ojas* and by thus restoring *Dhatu samya*. The trial drug probably acts in NIDDM by improving the status of Agni in general and *Medoagnidhatvagni* in particular and thereby resulting in qualitative change in the status of the *Medodhatu* or fat content of body, thus re-vitalising Insulin receptors and preventing further insulin antagonism. these two drugs have *Katu, Tikta, Kashaya* and both the drugs possess *Rasayana, Ojovardhaka agniprada* effects. Besides these Amrita is having *Deepana pacan* and immunomodulator properties. The above devised treatment seems to have produced metabolic correction in the patients of diabetes promoting the state of Agni and *Ojas* with overall improvement in the total health.

REFERENCES

1) Amerendra Narain Chaddha: Clinical and Experimental Studies on Pramaha (Diabetes Mellitus) with special reference to hypoglycemic action of C. tamala, Kayachikitsa, M.D. (Ay.), 1973, IMS, BHU.
2) Ashtanga Haridyam of Vagbhatta (1982): With commentaries of Saravangsundra of Arun-Datta and Ayurvedarasayan of Hemadri, Chowkhamba Sanskrit Series Office, Varanasi.
3) Bharati: A clinical study of Diabetes Mellitus vis-à-vis Madhumeha and its treatment with Bilwa (Acgle marmelous Corr.), Deptt. of Dayachikitsa, M.D. (Ay.), IMS, BHU, Varanasi, Dec. 1990.
4) Braunwald et al : In Harrison's Principles of Internal Medicine, Vol. II. 14th edition. McGraw Hill Bood Company, New York.
5) Caraka Samhita with Vdyotini Hindi commentary, 21st edition by Dr. Kashi Nath Shastri and Dr. G.N. Chaturvedi. Chaukhambha Bharti Academy, Varanasi
6) Madhava Nidana : Hindi Commentary by Shastri, S. and Upadhyaya, Y.N., edition Ist, Vol. 1 and 2, Chaukhambha Sanskrit Sansthan, Varanasi.
7) Singh, R.H. (1985): In 'Ayurvedic Nidana Cikitsa ke Siddhanta (Principles of Ayurvedic Diagnosis and Treatment)', Vol. II. Chaukhamba Amarbharti Prakashan, Varanasi (First edition).
8) Sushruta Samhita of Sushruta (1980): With Nibandh Sangraha commentary of Shri Dalhanacharya, edited by Vaidya Yadavji Trikamji Achrya and Narayan Ram Acharya, Chaukhambha Orientalia, 4th edition 53.

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