

ROLE OF ĀYURVEDIC TREATMENT IN THE MANAGEMENT OF DIABETES

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Abstract: This study explores the effect of Madusār granules, an āyurvedic formulation, in the management of Diabetes mellitus.

Introduction

Diabetes is a metabolic disorder characterised by a high blood sugar levels and caused by failure to produce enough insulin (Type I) or in some cases body cells do not respond appropriately to insulin that is produced (Type II). The modern management of diabetes, in spite of newer developments, remains unsatisfactory. The use of insulin is not always indicated and in many cases is ineffective due to insulin antibodies and several other unknown mechanisms. The Oral hypoglycemic agents too have been found to have limitations in therapeutic use primarily because of their side-effects.

Aims and objectives: - i) To find out the role of ayurvedic treatment in diabetes mellitus and ii) to develop an alternate line of treatment in treating diabetes mellitus.

Material and methods

This study was under taken in the Āyurvedic Department of Sassoon General Hospital, Pune from October 2006 to May 2007 (Intake period - 2 months; period of therapy - 6 months).

Selection criteria: - A written consent was taken from the patient for the voluntary participation in the study. Patients included controlled and uncontrolled diabetes irrespective of age/sex without any acute complication.

Out of 116 patients, only 63 patients completed the 6 months treatment. Follow up was made after 7, 15, 30 days and then after every 30 days.

Investigation: - Clinical investigations were done on the following parameters before and after the treatment:

- Blood sugar (done after 7, 15, 30, 60, 90 and 180 days after treatment)
- F
- PP
- Urine routine
- Cholesterol
- LFT
- KFT
- GHb

Treatment: - 5 gm of Madhusār granules, twice daily, was given for adults, and 2.5 gm in case of children.

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Contents of Madhusār:- Each 100gm granules contain the following ingredients:-

| Sanskrit/Scientific name of the drugs | Part used | Qty. (in gm) |
|--|-----------|--------------|
| 1. Madhunāśini (<i>Gymnema sylvestre</i>) | leaves | 21.5 |
| 2. Methi (<i>Trigonella foenum-graecum</i>) | seeds | 4 |
| 3. Gaudhamādinī (<i>Casaria esculenta</i>) | roots | 6.5 |
| 4. Jambu (<i>Eugenia jambolana</i>) | seeds | 4 |
| 5. Kāravellaka (<i>Momordica charantia</i>) | fruits | 4 |
| 6. Asana (<i>Pterocarpus marsupium</i>) | barks | 45 |
| 7. Haridra (<i>Curcuma longa</i>) | roots | 5 |
| 8. Āmalaki (<i>Emblca officinalis</i>) | fruits | 10 |

Many studies have shown hypoglycemic effect of āyurvedic herbs⁴⁻⁹; these medicinal herbs have property of inducing pancreas to secrete insulin and have capacity of regeneration of Beta cells of pancreas.

Observation and discussions

In the present study, there were 14 patients having Type-I diabetes (i.e. those require insulin) and 49 having Type-II (i.e. those which do not require insulin). One peculiar point observed in the Type-I cases were age distribution; majority of Type-I patients were above the age group of 51 years. It shows shift of age group to higher side in type-I cases. Majority of the patients were males. The subjects were having diabetes well established for more than 2 years (Table 1).

All the patients in Type-I diabetes category were already having insulin therapy along with antidiabetic agents like Sulphonylureas and Biguinides. 49 Type-II patients were already on

antidiabetic drugs. Majority of patients were (97%) having more than 4 complaints like frequency of urination, tiredness, nocturia, thirst, joint pains and body-ache, tingling and numbness. Only 10 patients were having blurred vision.

25 patients (39.68%) had blood sugar level <200 mg% (P.P.) while 23 (36.5%) were having moderate range i.e. 200-350 mg% (Table 2).

Effect of treatment

Patients were given Madhusār granules 5gm twice daily. Half dose was given to children and all the other drugs taken by patients earlier were continued and gradually stopped. Out of 49

TABLE I
Distribution of patients according to sex, age and duration of the ailment

| Parameter | Type-I* | Type-II | Total |
|------------------------|---------|---------|-------|
| 1. Sex | | | |
| - Male | 10 | 33 | 43 |
| - Female | 4 | 16 | 20 |
| Total | 14 | 49 | 63 |
| 2. Age group | | | |
| - 01-10 | 2 | | |
| - 11-20 | - | - | 1 |
| - 21-30 | 1 | - | 1 |
| - 31-40 | 2 | 9 | 11 |
| - 41-50 | - | 18 | 18 |
| - 51-60 | 5 | 16 | 21 |
| - >60 | 4 | 6 | 10 |
| Total | 14 | 49 | 63 |
| 3. Duration (in years) | | | |
| - 0-1 | 2 | 7 | 9 |
| - 2-5 | 4 | 20 | 24 |
| - 6-10 | 3 | 12 | 15 |
| - 11-15 | 3 | 9 | 12 |
| - 16-20 | 2 | - | 02 |
| - >21 | - | 1 | 01 |
| Total | 14 | 49 | 63 |

* Type-I insulin required; Type-II not required

TABLE 2
Status of blood sugar level (BSL) before and after the treatment

| DM Type | Before Treatment | | | | | After Treatment | | | | |
|-----------|------------------|---------|---------|---------|-------|-----------------|---------|---------|---------|-------|
| | 120-140 | 140-199 | 200-300 | 300-350 | Total | 120-140 | 140-199 | 200-300 | 300-350 | Total |
| • Fasting | | | | | | | | | | |
| -Type- I | 6 | 5 | 3 | - | 14 | 8 | 6 | - | - | 14 |
| -Type-II | 18 | 23 | 8 | - | 49 | 38 | 11 | - | - | 49 |
| Total | 24 | 28 | 11 | - | 63 | 46 | 17 | - | - | 63 |
| • PP | | | | | | | | | | |
| -Type-I | 2 | 5 | 4 | 3 | 14 | 3 | 4 | 7 | - | 14 |
| -Type-II | 2 | 16 | 19 | 12 | 49 | 17 | 22 | 9 | 1 | 49 |
| Total | 14 | 21 | 23 | 15 | 63 | 20 | 26 | 16 | 1 | 63 |

* Type-I insulin required; Type-II insulin not required
PP Normal <140, Mild <200; Moderate <200-350, Severe >350

Type-II diabetes patients, allopathic drugs were stopped in 19, reduced in 14 and were continued in 16. Out of 14 patients of Type-I diabetes, insulin was stopped in 1 patient and was reduced in 9 patients. Nearly 70% of Type-I patients could be maintained on reduced/no dosage of insulin.

Relief of symptoms: - There were more than 4 complaints associated with diabetes in majority patients (97%) before the start of treatment. Most of the patients started showing relief of symptoms within 2 months and onwards and after treatment they were symptom free. (Table 3)

Conclusion

- 73% patients positively responded to ayurvedic treatment and were maintained on either normal or mild diabetic range (<200mg% P.P.) This difference in the level of BSL after treatment is statistically significant (z=3.98 p<0.01)
- Before treatment there were 38 patients (60.31%) having BSL >200mg% but after

treatment only 17 patients (27%) were showing BSL >200 mg%. This difference in level of BSL after treatment is statistically significant as z=3.79, p<0.01

- Effect of ayurvedic treatment was found pronounced in Type-II patients; allopathic treatment was completely stopped in 19 (39%) cases, and in 14 allopathic dosages was reduced. Thus 68% patients were maintained on either no allopathic drugs or in reduced doses of allopathic drugs.
- Out of 14 cases in Type-I patients, one case stopped insulin completely and successfully maintained on ayurvedic treatment; whereas in 9 (64%), the units of insulin dosage reduced substantially from 35 to 21.6.
- Relief of symptoms was noticed from 7 days of treatment; but in 78% patients relief seen after two months therapy; and after 6 months treatment, 98.36% patients were symptom free. This difference in relief of symptoms is statistically highly significant (z=35 p<0.0001)

In short, ayurvedic treatment could be a

TABLE 3
Status symptoms during the course of treatment

| Symptoms | Days | | | | | | | | |
|---|-----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|
| | 1 st | 7 th | 15 th | 30 th | 60 th | 90 th | 120 th | 150 th | 180 th |
| Frequency of urination | 58 | 55 | 48 | 45 | 30 | 11 | 8 | 6 | 1 |
| Nocturia | 42 | 38 | 30 | 30 | 25 | 20 | 16 | 08 | 0 |
| Appetite | 30 | 28 | 25 | 20 | 10 | 08 | 05 | 05 | 0 |
| Thirst | 43 | 40 | 36 | 32 | 30 | 20 | 18 | 08 | 0 |
| Tiredness | 55 | 50 | 48 | 45 | 42 | 40 | 38 | 15 | 0 |
| Oedema | 20 | 20 | 15 | 10 | 10 | 08 | 06 | 04 | 0 |
| Blurred vision | 10 | 10 | 08 | 08 | 078 | 06 | 05 | 04 | 0 |
| Joint pain & Body ache | 56 | 54 | 50 | 28 | 13 | 10 | 04 | 02 | 0 |
| Tingling and numbness of both extremities | 30 | 30 | 28 | 28 | 22 | 15 | 10 | 10 | 0 |
| Wt. lost | 06 | 05 | 05 | 05 | 04 | 04 | 04 | 04 | 0 |

successful alternative in the management of diabetes. It may be taken in conjunction with allopathic treatment or by reducing the dosage of allopathic drugs, so that the side effects of allopathic drugs can be reduced and an early well being is possible.

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