PROGNOSIS OF PRAMEHA ON THE BASIS OF INSULIN LEVEL

ANUKUL CHANDRA KAR, B.N UPADHYAY AND DIVAKAR OJHA
Department of Kayachikitsa, Institute of Medical sciences, Banaras Hindu University, Varanasi – 221 005.

Received: 26 June, 1996
Accepted: 8 September, 1996

ABSTRACT: It has been mentioned in the text Kaphaj Prameha is sadhya, pittaj & vataj prameha is yapya & asadhya respectively. Keeping these view in mind, the present study aims to launch a concept of aetiopathology of prameha with special reference to establish the prognostical aspect of prameha scientifically in relation to the insulin level of the body.

INTRODUCTION

The antiquity of Ayurveda goes back to more than one thousand years B.C Sage Bharadwaja was the first to systematize the scientific though in Ayurveda who was followed by agnivesha and Divodas who inturn succeeded by their disciples charka, sushruta, Vagbhatta & Nagarjuna etc. In Ayurveda, diabetes is described as prameha which is studied under the category of Urinary disorders (Diseases of Mutravaha srotas). Diabetes mellitus is an universal health problem and its is well known as a group of disease caused by defective production or action of the hormone Insulin and characterized by chronic elevation of the concentration of glucose in the blood, in the untreated state resulting in long term complication. Aetiological factors play the role in the diseases are now fairly known and it is almost decided that it is the resultant of the interaction of multiple aetiological factors. It is the prime duty of physician to detect the nidan and adopt appropriate chikitsa. A proper diagnosis form the basis for proper treatment where the ignorance of the disease or improper diagnosis leads to haphazard of ineffective treatment.

The approach of Indian medicine towards the aetiopathogenesis of prameha is little different from that prevalent in modern medicine. Of course may of the new concept are very much akin to them. Even 3000 years back our ancient physicians were capable of diagnosing a disease by their fore-sight just as they were knowing the role of “Beeja dosha” in causation of prameha, what we know the genetic theory of today. In the text it has been mentioned that kaphanj prameha is sadhya pittaj and vataj prameha is yapya and asadhya respectively. Keeping these views in mind, the present study aims to launch a concept of aetiopatho-genesis of prameha with special reference to establish the prognostical aspect of prameha scientifically in relation to the level of in sulin in the body.

STUDY OF PROGNOSIS

Diabetes mellitus is a known progressive disease. The seeds of this disease are already sown in the intrauterine life as if is genetic and it remains for a considerably long time in the latent form. Overeating, excessive intake of glucose, sedentary habits obesity and other factors induce mild diabetes preferably during the period of
stress and infection. This stage is the chemical stage of diabetes. It is followed by the stage of acute diabetes with moderate hyperglycemic glycosuria and typical clinical features i.e polyuria, polyphagia, polydipsia requiring appropriate drug treatment. Ultimately the patient passes to the stage of chronic diabetes. With the severe hyperglycemia, the patient develops complications like nephropathy, neuropathy retinopathy etc. This is the state when patient becomes insulin dependent and now at this stage he can not be managed without Insulin therapy.

Ayurveda has also visualized this type of progression and it has been described that in the initial stage of prameha the kapha is in excess, but there is kapha kshyay at later stage. Similarly there is excess of pitta particularly in pittaj prameha which is also lead to pitta kshyay at a later stage. So ultimately there is vatavri in Kaphaj prameha as well as in pittaj prameha in the terminal stage, when all types of patients of prameha lead to the stage of madhumeha, a type of vataj prameha.

As regards their modern correlation. It has been proposed that there may not be absolute deficiency of Insulin in kaphaj and pittaj prameha. On the other hand there may be hyperinsulinism and if there is at all an deficiency, it is only relative. In modern medicine, these two types are known as insulin dependent and non insulin dependent type of diabetes, in the former there is absolute deficiency of insulin and patient can not be managed without insulin therapy but in the later, the deficiency is relative and the patients can be managed with diet control and oral hypoglycemics.

Here a hypothesis has been proposed that probably there will be relative hyperinsulinism? In kaphaj prameha, relative hypoinsulinism? In pittaj prameha and relative ainsulinism? In vataj prameha which can be best correlated to the prognosis of these 3 types of prameha as described in the text i.e kaphaj is sadhya, pittaj is yapa and vataj is asadhya. The hypothesis can be represented diagrammatically as follows.
This study was done by investigating the glucose induced insulin level of the patient categorized into 3 groups i.e. Kaphaj, Pittaj and Vataj.

MATERIAL AND METHODS

(1) SELECTION OF PATIENTS

This study comprised of a series of 50 patients of diabetes mellitus, 31 males and 19 females, preferably middle aged persons were selected randomly from OPD and IPD of Kayachikitsa of S.S. Hospital B.H.U., Most of them were detected first time while a few were known diabetics out of 50 cases, 40 cases were NIDDM and 10 cases were IDDM. These 10 IDDM cases were excluded from the study. As far as possible, these cases were hospitalized for investigations and those who could not be hospitalized due to some reasons were taken as OPD patients. The cases were recorded with the help of a special proforma prepared for this purpose.

(2) DIAGNOSTIC CRITERIA

A simple diagnostic criteria has been taken to diagnose the case as diabetic as follows.

- Unequivocal blood glucose elevation + classical symptoms of DM.
- Increase fasting blood sugar 100 mg% or more than one time.
- Increase PPBs 180mg% or more than one time.

The patients who were considered to be diabetic according to the above criteria were registered for my study.

3. CATEGORISATION OF PATIENTS:

The patients were divided into 3 groups i.e. Kaphaj, Pittaj and Vataj group according to the following criteria.

(a) Kaphaj group (18 cases).
- Body Built : obese
- Blood sugar-Grade-I (F=100 mg% pp=180mg% Grade II (F = 100-120mg%) pp=200-225 mg%)
- Urine examination (Ref. S.N. Tripathi et al)

(b) Pittaj group (12 cases)
- Body Built : Average
- Blood sugar-Grade-III (F = 120-200mg%) pp=225-300 mg%)
- Urine examination (Ref. S.N. Tripathi et al)

(C) Vataj group (10 cases)
- Body Built : thin
- Blood sugar- Grade IV (F = >120mg%) pp=>300 mg%)
- Urine examination (Ref. S.N. Tripathi et al)

4. METHOD OF BLOOD COLLECTION
The patients were kept fasting overnight with a good carbohydrate diet, the previous day. Fasting blood sugar sample was taken in the next morning at 7.00 A.M from the median cubital vein with all necessary precaution an sterile procedures. Patients are not allowed to take medicine. Soon after withdrawal of blood sample, 75gm. Glucose in a glass of water was stirred and drunk by the patient. No physical exercise or oral diet was allowed. Patients were advised to lie down or to sit comfortably. After ½ an hours of glucose intake the sample for PP Blood sugar was drawn. The plasma was separated for the study of level of glucose (GOD/POD) method supplied by the kit) and serum was separated for the radioimmunoassay of insulin (Method supplied by the kit). The insulin value and the corresponding FBS and PPBS level was noted.

Results

Table 1:
Incidence of mean FBS and PPBS levels in Kaphaj, Pittaj and Vataj group of patients of DM (N=40)

| Blood Glucose level | Kaphaj Group (N=18) | Pittaj Group (N=12) | Vataj Group (N=10) |
|---------------------|---------------------|---------------------|---------------------|
| FBS (mg%)           | 100-142             | 132-243             | 206-290             |
| Mean (mg%)          | 123.38              | 175.00              | 248.50              |
| SD                  | ± 14.042            | ± 33.02             | ± 25.66             |
| SE                  | 3.310               | 9.533               | 8.115               |
| FBS (mg%)           | 150-264             | 225-310             | 290-407             |
| Mean (mg%)          | 201.20              | 275.41              | 332.60              |
| SD                  | ±27.95              | ±27.33              | ±44.14              |
| SE                  | 6.590               | 7.891               | 13.962              |

Laboratory estimation of 40 patients of diabetes mellitus showed mean fasting blood sugar 123.38mg% (SD ± 14.042 SE = 3.310) in Kaphaj group, 175 mg% (SD=±33.02, SE = 9.533) in Pittaj group and 248.5 mg% (SD =± 25.66 SE=8.115) in vataj group. Likewise the estimation of mean postprandial blood sugar was also estimated in different groups. In Kaphaj group the mean OOBS was found 201.2 mg% (SD=± 27.85 SE = 6.590). In Pittaj group it was found 275. 41 mg% (SD =± 27.33 SE = 7.891). The mean PPBS in vataj group was 332.6 mg% (SD =± 44.14 SE = 13.862).

Table 2:
Incidence of S. Insulin level in different types of Prameha (N=40)

| Types of Prameha | S. Insuling (µU/m10) | FBS (mg%) | PPBS (m%) |
|------------------|----------------------|-----------|-----------|
| Kaphaj Prameha   | 26-103               | 100-142   | 150-264   |
| Ranging from     |                      |           |           |
| Pittaj Prameha | Vataj Prameha |
|----------------|---------------|
| Mean           | 18.39         | 9.51          |
| SD             | 3.42          | 1.672         |
| SE             | 0.989         | 0.529         |
| Ranging from   | 13-25.5       | 7.3-13        |
| Mean           | 175           | 248.5         |
| SD             | 33.02         | 25.66         |
| SE             | 9.533         | 8.115         |
| Ranging from   | 132-243       | 206-290       |
| Mean           | 275.41        | 290-407       |
| SD             | 27.33         | 44.14         |
| SE             | 7.891         | 13.96         |
| Pittaj Prameha | 225-310       |               |
| Mean           | 49.21         | 201.2         |
| SD             | 26.89         | 27.95         |
| SE             | 6.34          | 6.590         |
| Ranging from   | 123.38        |               |

The estimation of S. Insulin shows that the patients belong to kaphaj group have the highest level of Insulin in comparision to other groups i.e 49.21 Un/ml (SD± 26.89 S.E 6.34. the mean Insulin level in the patients belong to pittaj group was 18.39 uU.ml (Sd± 3.42 SE = 0.989) which is less than kaphaj group but higher than vataj group in the vataj group the mean Insulin level was 9.51 Un/ml (SD ± 1.672, SE = 0.529) which is lowest in comparision to other groups. The normal value of the insulin according to the supplied kit wa 0.30 uU/ml).

**CONCLUSION**

The prognostical study on the basis of Insulin level reveled that there is relative hyperinsulinism in Kaphaj prameha, relative hypoinsulinism in pittaj prameha & relative ainsulinism in vataj prameha. Thus the prognosis will be better in kapaj prameha in comparison to pittaj and vataj. The prognosis of pittaj prameha will be good in comparison to pittaj and vataj. The prognosis of pittaj prameha will be good in comparison to kaphaj & vataj & the prognosis of vataj prameha will be poor in comparison to kaphaj & pittaj & may require insulin therapy for the control of hyperglycemia as suggested by the above results. This fact coincides with the description in the texts that kaphaj is sadhya, pittaj is yapya & vataj is asadhya.

**ACKNOWLEDGEMENT**

We are very grateful to prof. R.H Singh Deptt. Of Kayachikitsa I.M.S., B.H.U for help for the above study.

Our sincere gratitude of Prof. J.K Agrawal, Head, Division of Endocrinology, IMS., BHU, & Dr. J.P.N Chansouria, CEMS, I.M.S. B.H.U for his help to bring the RIA kit for Insulin assay from Board of Radiation & Isotope technology, Mumbai.

We are really very thankful to prof. Maharani chakravarty, Incharge, Deptt. Of molecular biology, I.M.S B.H.U for her help to count the radioactivity in the gamma ray counter of her laboratory. My sincere thanks to Mr. S.M. Singh S.T.A CEMS, I.M.S. B.H.U for his help in doing the assay.

Lastly we are indebted to our patients without whose cooperation this study would have been impossible.
REFERENCES:

1. Charak samhita
2. Sushruta samhita
3. Astanga hridayam
4. Diabetes – S.N Tripathi et al
5. Yalow R.S: Berson S.A Immunoassay of plasma insulin in man diabetes,10,339 (1961)
6. Korgensen K.r. – Radioimmunoas say of insulin in plasma & urine in obese subjects & in diabetic patients – Acta Endocrino 60,719 (1969).