

ABSTRACTS FROM ARTICLES ON DIABETES-Indian Journals 1980

Diabetes Tuberculous Patients

by A.B. Roychowdhury, P.K. Sen

Journal of Indian Medical Association, 1980, Volume 74, No. 1 page 8

Abstract

Prevalence of diabetes was found to be 20.70 per cent and of potential diabetes 6.55 per cent in a survey of tuberculous population of 961 admitted in K. S. Ray Tuberculosis Hospital, Jadavpur, Calcutta, during a year from April, 1975 to March, 1976. The criterion of diabetes was taken to be blood sugar level of 141 mg. percent and above estimated by Folin and Wu method with photo-electric colorimeter, 2 hours after 100 g. of glucose feed, making allowance of 10 mg. per cent only instead of 20-30 mg. per cent of non-glucose reducing substance in blood that remains relatively constant. This eliminated the possible variation in sugar intake, and also an approach to true sugar by giving some allowance for non-glucose reducing substance in blood. The potential diabetes was taken to have a blood sugar level of 131-140 mg. per cent. The authors, however, feel that blood sugar level of 151 mg. per cent and above including 30 mg. per cent of saccharoid should be the really acceptable criterion of diagnosing diabetes, and 141-150 mg. per cent of potential diabetes, but this would have been a disadvantage for a comparative study with others. This makes the prevalence of diabetes to be 14.46 per cent and potential diabetes 6.24 per cent. The most aged diabetic was of 82 years of age and the youngest was 4 years.

Out of 199 cases determined as diabetes by blood sugar level of 141 mg. per cent and above, 93 cases only had sugar in urine. This indicates that 10 cases (11.03 per cent) of genuine diabetics would have been missed if the test for diabetes was limited to urine examination only. On the other hand, out of 762 tuberculosis cases who were labelled as non-diabetics according to blood sugar estimation, 38 (3.95 per cent) cases had sugar in urine. These cases who were really cases of renal glycosuria only would be diagnosed as diabetics with all its consequences.

A Study of Postprandial Blood Sugar Level in Young Medical Students

by S.P. Singh & A.K. Sisodia

Journal of the Indian Medical Association, 1980, Volume 74, No. 2, page 29

Abstract

The present study was planned to provide valuable indication of the normal Pp level in Indian subjects of age range between 18 and 25 years.

Estimation of postprandial blood sugar level was done in 122 normal young male and female subjects by Nelson-Somogyi method. An average value of 107.64 mg. per cent

has been observed in males while 112.50 mg. per cent in females. The difference was not statistically significant. This indicates that the role of carbohydrate metabolism is almost same in both the sexes. The mean value including both the sexes was found to be 108.43 mg. per cent.

Effect of vegetarian and non-vegetarian dietary habit on the level of blood sugar has also been studied and an average value of 113.2 mg. per cent has been found in vegetarians and 105.03 mg. per cent in the non-vegetarians.

Postprandial blood sugar levels have been found to be 107.11 , 109.76, 107.50 110.06 mg. per cent in the four different age groups (18-19, 20-21, 22-23 and 24-25 years).

Follow up studies are required to assess how many of the present cases are prediabetics or latent diabetics.

Diabetics and the Heart

*by M.K. Chhetri, A.L. Dutta & M. Panja
Journal of the Indian Medical Association, 1980, Vol. 74, No. 4, page 79*

Abstract

In the current topic, update exposition of cardiovascular involvement in diabetics is brought out.

In India, reports corroborating the increased incidence of CAD in diabetics are stated. The estimated incidence of 10-25 per cent of CAD in the diabetic population in different parts of India (Banerjee and Ray, 1959; Lal and Bahl, 1967; Vaishnava et al, 1968; Chhetri et al, 1970; Ahuja and Kumar, 1976), is much higher than the 6.6 per cent incidence of CAD in the adults in general population (Berry et al, 1966).

Cardiovascular disease was present in 23.69 per cent of authors cases. Of total 817 cases, ischaemic heart disease in 116 (14.0 per cent), cardiac enlargement in 30 (3.6 per cent), bundle branch block in 50; RBBB in 48 (6.3 per cent) and LBBB in 2. Pathogenesis for the diabetic heart disease, atherosclerosis, cardiomyopathy and micro-angiopathy are reviewed and critique of relationship to control of glycaemia presented.

Authors make notation of presence of heart disease in diabetes long before this being clinically and instrumentally evident and offer plea for correction and control of the total metabolic aberrations of diabetes in prophylaxis of heart disease in diabetes.

Fulminant Hepatitis with Recurrent Hypoglycaemia in Diabetes Mellitus

*by O.P. Gupta, A.K. Bajaj, V. Swaroop & D.K. Rastogi
Journal of Indian Medical Association, 1980, Vol. 74, No. 6 page 113*

Abstract

Hypoglycaemia in association with liver diseases generally has been considered an uncommon entity occurring primarily in circumstances of rapid massive necrosis. Two cases of spontaneous recurrent hypoglycaemic coma, occurring in known maturity onset diabetic patients complicated by viral hepatitis are being reported. The speculation of marked impairment in hepatic glycogen synthesis is put forth rather than possibility of hyperinsulinism. It is to be recognized that acute hepatitis without extensive necrosis may also give a rise to fasting hypoglycaemia.

Nature of Carbohydrate Intolerance in Adult Malnutrition

*by M.K. Chhetri, B. Ray Chaudhuri, A. Dutta, B. Kundu, Mrs. L. Majumdar, D.K. Pahari & K.K. Ghosh (1980)
Journal of the Indian Medical Association, Volume 75, No. 7, page 133*

Abstract

The carbohydrate tolerance in 50 adult malnutrition patients was studied with the help of OGTT, IVGTT, IVTRT and insulin sensitivity test and the same repeated after feeding with high protein/calorie diet over a period of 2-3 months. Serum insulin and glucagon was also studied in 10 such patients in the basal stage and after 100 g. of glucose challenge both during the stage of malnutrition and after refeeding. Thirty per cent of the patients revealed frankly diabetic curve and in another 50 per cent the OGTT was abnormal. Pancreatic beta cell function was depressed in those with frankly diabetic curve, while all except 6 revealed insulin resistance. Both the basal and post-glucose serum insulin and glucagon were found to be abnormal.

It is thus concluded that in malnutrition, carbohydrate intolerance is often reversible and is a sequel of hormone interaction, particularly insulin and glucagon with the solitary objective of nitrogen conservation, needed for adaptation during the period of restricted protein and calorie intake.

Newer Insulins (Editorial)

Journal of Indian Medical Association, 1980, Volume 74, No. 9, page 178

Abstract

This Editorial gives a critique of the new insulins, single peak insulin (SPI), monocomponent insulin (MCI) and semi-synthetic insulin.

SPI or MCI are highly purified insulins and less immunogenic, their present day indications being when diabetic control is poor or the dose of conventional insulin is high; in newly developed diabetes likely to need insulin injection for more than 10 years, in patients developing troublesome allergy or lipodystrophy to ordinary insulin and where insulin therapy is likely to be discontinuous, e.g. gestational diabetes.

The contentions of reduction of dose of insulin, improved control of diabetes or specific usefulness in labile diabetes is not borne out and references indicated to such findings.

Semi-synthetic insulin analogues which have more, hepatic than peripheral action and future prospectives of insulin by peptide chemist are briefly stated.

Research in Diabetes Care

by M.M.S. Ahuja

*Journal of the Indian Medical Association (1980), Volume 75, Numbers 11 & 12,
page 229*

Abstract

Some of the emerging prospectives with new promises in the care of diabetes today have been reviewed in this oration delivered at Diabetes Research Centre, Madras. The presentation has three main areas covered :

- (a) New therapeutic possibilities.
- (b) Identification of factors that may prevent diabetic vascular disease and outline for present day management.
- (c) Evolving health care delivery system in developing countries that incorporate non-communicable diseases as diabetes.

a. The new possibilities of insulin delivery systems (closed loop, open loop,) for achieving continuous normoglycaemia in diabetes is brought out. Due to technical factors, practical usefulness of these methods seem limited to difficult stabilization period, so far. Scope of transplantation, especially of beta cells is updated and in near future possibility of synthetic insulins (by DNA recombination) for human use outlined. While giving a broad review of indigenous drugs newer sulphonylurea agents that tend to increase the plasma membrane receptors for insulin accredited.

Metabolic events that follow exercise in a diabetic are brought out and while its usefulness incorporate improvement in cardiorespiratory function as well there is psychological stability, limitations of exercise for ketotic diabetics are stated.

b. Correlative factors for vascular disease in diabetes bring out relationship of hyperglycaemia, hypertension and hyperglyceridaemia, Benefit of normoglycaemia,

drugs for hyperlipidaemia, possibility of renal transplantation in diabetics with nephropathy and present day assessment of photocoagulation from reputable centres reviewed.

c. In the final part, team approach and at the same time emphasising the primary role of patient education in management of diabetes is highlighted.

Effect of Glucose Blood on load Recalcification time (BRCT)

By G. Sulochana and N. Padmanabhan.

Journal of Association of Physicians of India, 1980, volume 28, page 53

Abstract

The effect of glucose load on blood recalcification time (BRCT) was studied in 18 normal and 32 diabetic individuals and it was found that oral glucose load significantly reduce the BRCT (Method) of Gulliani Girdhari) in normal as well as in diabetic individuals (normal individuals to cal 2.94 vrs. vrs. diabetics to cal 7.676). A significant decrease in BRCT after glucose was observed in normal as well as in diabetics.

Heart disease in diabetes : Aetiopathogenesis

by B.S. Rajeha

Journal of Association of Physicians of India, 1980, Volume 28, page 81.

Abstract

Author narrates personal observations on 178 instances of heart diseases (127 with diabetes and 51 non-diabetics) in senior Hoechst Lecture (1979) at Trivandrum.

Hyperglycaemia per se is discounted from contributing to increased incidence of myocardial infarction or mortality therefrom.

Evidence is presented in favour of cardiomyopathic changes; myocardial dysfunction could be due to metabolic abnormalities, as well in others focal myocardial fibrosis alongwith ininitial proliferation of small vessels has been observed. Author recommends low fat 20% and high complex carbohydrate diet and contends that incidence of myocardial infarction and cardiomyopathy was much lower than other therapeutic group, and much similar to non-diabetics (255 patients data, 78 non-diabetic. 63, diabetics on diet, 80 on oral drugs and 34 on insulin).

Radiological study of Urinary tract in cases of Diabetes Mellitus

*by N.K. Sarin, K.B. Kanwal, S.L. Sharma and D.S. Puri
Journal of the Association of Physicians of India, 1980, Volume 28, page 113*

Abstract

Fifty two patients of the diabetes mellitus of upto 25 years duration were studied by intravenous pyelography and cystography. Variable severity of diabetes mellitus was present in them. In many control was poor (47 cases). Clinical evidence of diabetic nephropathy was present in 16 cases in the form of proteinuria and/or high blood pressure and/or azotaemia. None of the cases was in acute renal failure. Only 8 cases had radiological changes. In all of them clinical evidence of renal involvement was present. Duration of diabetes in all these cases was 10 years or above.

Importance of abnormal findings like alteration in renal size and configuration, delayed excretion and poor concentration of contrast medium and abnormalities in pelvicalycine system are highlighted and discussed.

Estimation of Glycosylated Hemoglobins by a simple chemical method and its use in monitoring control of diabetes mellitus

*By Hemraj B. Chandalia, Shaukat Sadikot, Dilip K. Bhargava and P.R. Krishnaswamy.
Journal of the Association of Physicians of India, 1980. Volume 28, page 285*

Abstract

The estimation of glycosylated hemoglobins has been done by a modified method that is specific for ketoamine linked hexoses. In 47 instances, fasting and 2 hour post-prandial blood glucose and glycosylated haemoglobin determinations were made. Linear regression of mean blood glucose (mean of fasting and 2 hour post-prandial blood glucose) and estimated glycosylated haemoglobin was computed for patients in good and poor control of diabetes, r 0.82 and $p < 0.001$. The glycaemic status of preceding two months related to the estimated glycosylated haemoglobin.

Clinical Experience with Monocomponent Insulins in Management of Diabetes Mellitus

*by Vinod Kumar & M.M.S. Ahuja
Journal of the Association of Physicians of India, 1980, Volume 28, page 360*

Abstract

Eighteen uncontrolled diabetics on conventional insulins were changed to MC insulins and followed for 4.5 months. MC insulin therapy was associated with a 49% reduction

in insulin dose and overcoming of insulin resistance. Mean FBS, PPSS and 24 hour US showed consistent reduction resulting in better control of diabetes. Satisfactory control by strict criteria was, however, seen in smaller number of patients. Insulin allergy and lipodystrophy encountered in one patient each was relieved on MC insulin. Selected indications for use of monocomponent insulins are substantiated and provided significant relief in suitable diabetics.

Fenfluramine in management of obese diabetics

*by N.P. Misra, S.A. Bhambal, S.S. Yesikar & R.K. Bellasi
Journal of Asso. of Physician India, 1980, 28, 287*

Abstract

Twenty six obese, maturity onset diabetics were studied to find out the role of Fenfluramine in the management of diabetes. 12 cases (Group-I) received Fenfluramine, another 12 cases (Group-II) received sulphonylurea drugs and Fenfluramine, another 12 cases (Group-II) received sulphonylurea drugs and Fenfluramine, two cases (Group-III) received insulin and Fenfluramine. Fenfluramine in the doses of 80 mg. daily was given to every patient for a period of 8 weeks. In all the groups Fenfluramine showed an anorectic effect, the mean loss of weight was 5.1 kg. reduction in abdominal girth was 5.7 cm, lowering of systolic and diastolic blood pressure was 8 and 6 mm respectively. The hypoglycaemic effect was significant. Virgin cases (Group-1) were satisfactorily controlled on Fenfluramine. Synergistic action was found with sulphonylureas and insulin. Effect on lipids was variable. FFA levels were raised in Group I and II, which decreased in Group III. Serum cholesterol was lowered in Groups I and III, increased in Group II. Side effects comprised of mild sedation, dreams, day time sleepiness, mild diarrhoea and headache, but did not warrant withdrawal of therapy. The drug appears to be therapeutically useful as an antidiabetic drug in mild cases and as an adjuvant in moderate to severe cases. The mechanism of action appears to be complex. The clinical and biochemical effects suggest action on the hypothalamus, muscles, adipose tissue and probably on intestines.

Diabetes in the Hypertensive

*by Satish Kumar, P.S.S. Sundar Rao, & B.M. Pulimood
Journal of the Association of Physicians of India, 1980, Volume 28, page 419*

Abstract

Eighty eight hypertensive and 1228 non-hypertensive patients were studied for diabetes mellitus. The incidence of diabetes was significantly higher (p less than 0.001) among the hypertensives. This incidence was not affected by age. The incidence of ischaemic heart disease was similar for both the diabetic and nondiabetic hypertensives.