



Retrospective Study: Micro and Macrovascular Complications in Type 2 D.M in Tertiary Care Hospital

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Abstract

Diabetes is one of the most common endocrine disorders. Its disorder of metabolism of carbohydrate, protein and fat due to absolute or relative deficiency of insulin secretion and with varying degree of insulin resistance. This metabolic disorder results in longterm disease specific microangiopathy (nephropathy, retinopathy, neuropathy) and aggravation of macroangiopathy. Diabetic patients usually thin built. polyuria, polydipsia, polyphagia, weight loss, fatigue and weakness are major symptoms. Patient may present with diabetic ketosis (air hunger, kussmaul's respiration, acetone odour of breath, dehydration, vomiting, abdominal pain etc.

Keywords: Nephropathy, Retinopathy, Neuropathy, Diabetic ketoacidosis.

Introduction

Diabetes mellitus refers to a group of metabolic disorder that share the phenotype of hyperglycemia. The incidence of diabetes is rising. Globally, it is estimated that 366 million people had diabetes in 2011. With an increasing incidence worldwide, DM will be likely a leading cause of morbidity and mortality in future. Several distinct types of DM are caused by a complex interaction of genetics and environmental factors. Depending on the etiology of the DM, factors contributed to hyperglycaemia include insulin secretion, decreased glucose utilization, increased glucose production. The metabolic dysregulation associated with DM causes secondary pathophysiologic changes in multiple organ systems that impose a tremendous burden on the individual with diabetes and on health care

system. In the United States, DM is the leading cause of end stage renal disease, non traumatic lower extremity amputations, and adult blindness. It also predisposes to cardiovascular diseases.

Criteria for Diagnosis of Diabetes Mellitus

Symptoms of diabetes plus random blood glucose concentration >200mg/dl or

Fasting plasma glucose >126mg/dl or

Haemoglobin A1c >7 or

2-h plasma glucose >200mg/dl during on oral glucose tolerance test

There are 2 broad categories of DM, designated type 1 and type 2. Type 1 is caused by autoimmune destruction of insulin production cells (beta cells) in the pancreas, type 2 is characterised by resistance to the action of insulin and an inability to produce sufficient insulin to

overcome this insulin resistance. Therefore study was undertaken to isolate and identify the patient who were suffering from diabetes and their complication like neuropathy, retinopathy and nephropathy.

Materials and Methods

Sources of the material

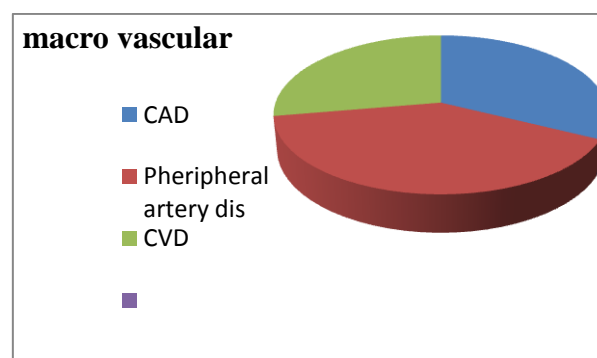
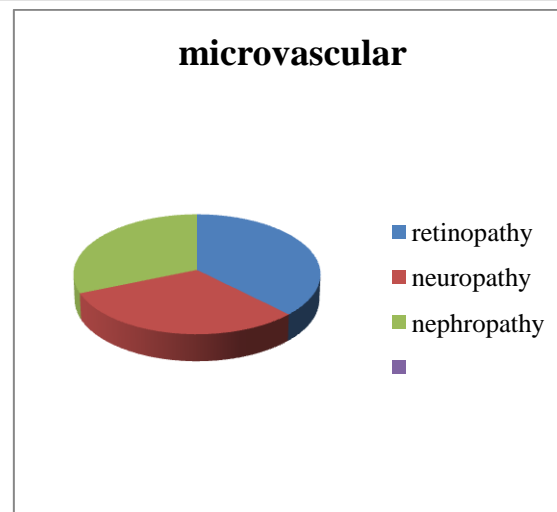
Hundred (100) blood samples from clinically diagnosed DM cases were collected for the study. Patients were screened for retinopathy, nephropathy, coronary artery disease, cerebro vascular disease, peripheral vascular disease, ulcer, microalbuminuria, peripheral neuropathy.

Data collection

Complete data about the patient Name, Age, Sex, Date of collection of the blood samples, History of present illness, symptoms were collected from the patient. Family history of diabetes, HT, infection, pregnancy, stroke, MI details were collected from the patients.

Result and Discussion

The age group of the patient in the study, ranged from forty eight to eighty three years. Out of hundred (100) patients, the most common age group was 55-74 years (68%). The next common age group was 45-54 years (16%) and 75-84 years (16%). Among clinically diagnosed DM patients who were suffering from diabetic complication, 61 were males and 39 were females. Out of 100 patients sixty three patients were suffering retinopathy. Among 63 patients, 41(65%) patients were suffering from proliferative diabetic retinopathy, 22(35%) patients were suffering from non proliferative diabetic retinopathy. 81 patients HbA1C results were > 7 . 50%- nephropathy, CAD- 42%, CVD-36%, PVD-49%, ulcer -47%, microalbuminuria-47%, peripheral neuropathy-52%. Chronic history of uncontrolled diabetes with retinopathy, ulcer, peripheral neuropathy were the common clinical manifestations in the patients.



Conclusion

In our study, following conclusions were obtained. Diabetic patients with HbA1c >7 is associated with both micro and macro vascular complications. Among them majority had nephropathy followed by peripheral vascular disease and coronary artery disease.

Further this study shows that people with HbA1c >7 are more prone for newly diagnosed coronary artery disease and cerebrovascular accidents. Further on follow up of these patients with after good HbA1c control revealed better outcomes.

This concludes from our study that HbA1c in near future can be used as a prognostic marker for complications associated with diabetics.

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