ABSTRACT

A Study of Pancreatic Hormones, Adipocytokines and Lipid Profile of Patients in DM Type 2 with and without Obesity - A Hospital Based Study in MMIMSR, Mullana, Ambala.

(Session 2011-14)

Priyanka Sharma, M.Sc - Medical Biochemistry

Dr. Jagdish Professor, Department Of Medicine, (Co-Supervisor)

Dr. K .S. Sodhi Professor, Department Of Biochemistry, (Supervisor)

Type 2 diabetes mellitus (T2DM) is a metabolic disease and burden of diabetes is its complications. So, it is imperative to address the basic biology of diabetes and not to simply treat the symptom complex, by early screening and effective management of people who are at risk. For patients newly diagnosed with T2DM, early and aggressive intervention strategies that combine maximal glucose lowering efficacy alongside potential cell preserving properties may provide an opportunity to delay or prevent the progression of disease. Alterations in the adipose tissue mass and metabolism may also be related to insulin resistance and visceral obesity which is commonly associated with diabetes. Insulin resistance, a common defect in T2DM and obesity, has been associated with higher levels of pancreatic hormones and deranged levels of adipocyte-derived
hormones. In order to gain new insight into the interplay of various hormones and cytokines in the pathophysiology of T2DM, the present study was undertaken in the Department of Biochemistry in collaboration with Department of Medicine, M. M. Institute of Medical Sciences and Research, Mullana, Ambala to evaluate the serum levels of pancreatic hormones, adipocytokines and lipid profile in patients of T2DM with and without obesity which, in turn, may suggest that the suitable drug development aimed at modulating the levels of these molecules might assist in better management of DM. The results of the study indicated that the subjects with both diabetes and obesity were significantly more insulin resistant than those suffering from either of two diseases due to cumulative effects of both diabetes mellitus and obesity. In conclusion, determination of serum insulin, C-peptide, leptin and adiponectin levels in obese individuals may guide in assessing the risk of developing insulin resistance and thereafter, diabetes and cardiovascular disease in such individuals which would enable suitable preventive measures to be implemented in order to protect the high risk subjects against diabetes and its complications. This also offers a new field for the development of novel drugs for alleviation of insulin resistance and obesity.

Keywords: diabetes mellitus, obesity, adipocytokines, insulin resistance, lipid profile.