الإدارة العامة للمكتبات

College	**Faculty of Medicine**	Department	**Clinical Pathology**	Call no.	
Author	**Osman Moustafa Ahmed Zaki**	Degree	**MD degree**	Date	**2012**
Title	**The State Of Some Serum Lysosomal Enzymatic Activities In Diabetic Patients: The Effect Of Diabetic Complications.**				

Dissertation Abstract

Diabetes mellitus is a syndrome of chronic hyperglycemia due to relative or absolute insulin deficiency, insulin resistance, or both. It is associated with specific microvascular and macrovascular complications.

Lysosomes are cell organelles. They are membrane-bounded and contain many hydrolytic enzymes. They are involved in degradation of extracellular molecules or pathogens internalized to the cell by endocytosis. Controlled intracellular digestion takes place inside the lysosomes by means of enzymes called acid hydrolases.

Despite several studies that document the association of increased lysosomal enzymes with diabetes ,to our knowledge there are no enough previous reports on the relationship of increased lysosomal enzymes with diabetic complications therefore the aim of this work was to study the activity of some lysosomal enzymes as non prostatic acid phosphatase, beta-N-acetyl glucosaminidase, cathepsin B and cathepsin D in diabetic patients with complications in comparison to diabetic patients without complications and healthy volunteers in order to evaluate their status in diabetes and their role in induction of diabetic complications.

The present study comprised sixty patients with diabetes.Thirty five patients with diabetic complications and twenty five patients without diabetic complications. They were compared to thirty healthy volunteers.

The present study showed that serum levels of studied lysosomal enzymes (NPAP, NAG, Cathepsin B, Cathepsin D) were statistically significantly higher in diabetic patients than healthy volunteers and there were no statistically significant difference in their levels between patients with microvascular diabetic complications and controlled diabetic patients while diabetic patients with macrovascular complications (atherosclerotic coronary artery disease) showed significant higher lysosomal enzyme activities compared to controlled diabetic patients.

This study support the hypothesis that elevation of some serum lysosomal enzymes in diabetic patients were attributed to chronic inflammatory state in diabetes mellitus that lead to generalized lysosomal activation or might rise simply by enzyme loss from damaged tissue and hyperglycemia together with poor glycemic control could be direct triggering factors for their increase.

Key Words (not more than 10)