Introduction

Diabetes mellitus is a syndrome of disturbed energy homeostasis caused by deficiency of insulin or its action and resulting in abnormal metabolism of carbohydrate , protein and fat. Insulin dependent diabetes mellitus is the most common endocrine metabolic disorder of childhood and adolescence with important consequence for physical and emotional development **Sperling , (1996)**

Sialic acid is an acetylated form of neuraminic acid and frequently known as N- acetyl neuraminic (NANA) . It is a normal constituent of the cell membrane and it is also found as macromolecules in the cytoplasm, **Khnderia etal .,(1983),** It influences the physiochemical properties of glycoproteins , participates in haemostasis and affects the specificity of blood group antigens. One third of sialic acid is bound to proteins and the remaining two third exist as lipid-bound sialic acid, **Katapodis etal .,(1982)**

Sialic acid is released from terminal oligosaccharide chain of some proteins of acute phase (fibrinogen , orosomucoid , haptoglobin , etc.) .It's serum concentrations have bee commonly increased during acute inflammation , **Spunda etal ., (1996)**

Crook etal., (1993), stated that , total serum sialic acid levels were significantly elevated in diabetic patients and were correlated with hypertension and retinopathy, they consider it as a risk factor for the development & a marker of diabetic angiopathy.

The cholesterol accumulating effect of diabetic patients , blood sera is mainly related to atherogenic LDL, which is modified in various ways e.g. by increased non enzymatic glycation, desialylation and alteration in lipid composition. This multiple modified LDL may

contribute to the premature atherosclerosis development in diabetes mellitus, **Sobenin etal.,(1993)** .

Tomino et al., (1988) , stated that, the levels of the sialic acid in sera of patients with diabetic nephropathy were markedly increased. They suggested that accumulated substances in the glomerular capillaries with an affinity for WGA (wheat germ agglutinin) are mainly composed of N- acetyl glucosamine and or N-acetyl neuraminic acid in patients with diabetic nephropathy.