REVIEW OF LITERATURE
Adropin and Type 2 Diabetes Mellitus

Ahmad Hosseini (2016) et al documented that Adropin levels were significantly higher in T2DM patients compared to healthy controls; and inversely correlated with FBG (Fasting Blood Glucose) in T2DM patients and was also negatively correlated with HOMA-IR. More interestingly, this association was more prominent in T2DM patients when Adropin was higher than 2.25 ng/ml.

Adropin and Gestational Diabetes Mellitus

Dąbrowski (2016) et al, found that Adropin concentration in GDM patients was significantly higher than in control group, but there was no difference between GDM1 and GDM2 group.

Adropin and diabetic nephropathy

Wenchao Hu (2016) et al. showed decrease in serum Adropin in type 2 Diabetes Mellitus compared to healthy controls. Lower serum Adropin concentrations were found in T2DM patients with DN compared with those without DN. Pearson correlation analysis indicated that serum Adropin was negatively correlated with body mass index (BMI), blood urea nitrogen, creatinine, and positively correlated with glomerular filtration rate. This study showed that decreased serum Adropin concentrations were correlated with the development and progression of DN. Adropin expression was detected in the kidney tissue of rats, including the glomerulus, peritubular interstitial cells, and peritubular capillary endothelial cells. Adropin immunoreaction was enhanced in the kidney of diabetes induced rats compared with that in the kidney of the controls. The intensities of Adropin immunoreactivity increased with diabetic severity. However, the reason why serum Adropin concentrations were low while Adropin immune-reaction was high
in diabetes or DN condition remains unknown\textsuperscript{11}. Further studies are required to explain this phenomenon.\textsuperscript{11}

**Therapeutic role of Adropin:**

*Gao S (2015) et al,* studied the therapeutic role of Adropin in animal models\textsuperscript{9}. Intra-peritoneal administration of Adropin to hyperlipidemic rats for 10 days were extremely effective in decreasing the levels of serum triglycerides (TG), total cholesterol (TC), low density lipoprotein cholesterol (LDL-C), aspartate aminotransferase (AST), alkaline phosphatase (ALP), alanine aminotransferase (ALT), and gamma glutamyl transferase (GGT) and increasing the levels of high density lipoprotein cholesterol (HDL-C)\textsuperscript{36}. In addition, treatment with Adropin showed a significant reduction in blood glucose, serum insulin levels, HbA1c (%), and HOMA-IR\textsuperscript{2}. The study concluded that Adropin may ameliorate lipid metabolism, reduce insulin resistance, and inhibit hepatocytes inflammation. In another study, Adropin treatment improved glucose tolerance, enhanced insulin action and augmented metabolic flexibility towards glucose utilization in diet induced obese (DIO) mice.\textsuperscript{5}

**Adropin and Type 1 Diabetes Mellitus**

As far as our knowledge, till date, no study has been conducted on Type I Diabetes Mellitus to assess the level of Adropin level\textsuperscript{3}. This is the first study that aims to study the role of Adropin in Type 1 Diabetes Mellitus\textsuperscript{1}. As many studies have demonstrated the role of Adropin with concentration of insulin, our study also aims to correlate the role of Adropin in Type 1 Diabetes Mellitus\textsuperscript{3}. The study may provide the insight to the therapeutic role of Adropin in Type 1 Diabetes Mellitus\textsuperscript{2}. 
Adropin and Diabetic Retinopathy
Recent epidemiological studies have shown a significant rise in the prevalence of diabetes mellitus (DM) worldwide. The retina and the kidney complications of DM both result from damage to small vessels in these organs. These diabetic microvascular complications may have devastating consequences, including blindness and end-stage renal disease. As far as our knowledge there is no such studies to show the relationship between the role of Adropin and Diabetic retinopathy.

Level of Adropin and Diabetic Neuropathy
Prolonged cases of Diabetes has the complication such as Neuropathy. There is no such documentation that shows the relation of Adropin and Diabetic Neuropathy.

Adropin and microalbumin in Type 2 diabetes mellitus
In a study conducted by Ugur Kader et al, serum Adropin level was increased with overt albuminuria. Renal homeostasis is considered as the factor for increment of serum Adropin associated with endothelial function and energy homeostasis. In summary, most of the previous studies in the animal model have focused on the role of Adropin in carbohydrate and lipid metabolism. Moreover, role of Adropin has been demonstrated in Type II Diabetes Mellitus, gestational Diabetes Mellitus and diabetic nephropathy and in all of the cases the exact pathophysiologic mechanism remains vague. Therefore the aim of our study is to correlate Adropin and level with Type I and Type II Diabetes Mellitus.