Title: Complication in diabetic nephropathy

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<AT>Complication in Diabetic Nephropathy
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<ABS-HEAD>**Abstract**

<ABS-P><ST>Background</ST> Diabetic kidney disease is the most common cause of chronic kidney disease, leading to end-stage renal disease (ESRD) and premature death. In addition, it negatively affects a patient's quality of life and social environment, and poses a burden on national health care budgets Although various therapeutic approaches, such as hypoglycemic agents, antihypertensive drugs, and renin-angiotensin system inhibitors, have been tried to slow the progression of nephropathy, the number of patients with diabetic kidney disease continues to rise with the prevalence of type 2 diabetes mellitus. Thus, early identification of patients at risk of developing diabetic nephropathy and initiation of appropriate therapy is important to improve patient outcomes .In end stage renal disease(ESRD), Diabetic nephropathy is the main cause considered from other diseases.

<KWD>Abbreviations: DN, Diabetic nephropathy; GBM, Glomerular basement membrane; MCP-1, Macrophage chemotactic protein-1, **ESRD** end-stage renal disease, **FPG** fasting plasma glucose, **GFR** glomerular filtration rates, **T1DM** type 1 diabetes mellitus, **T2DM** type 2 diabetes mellitus AGEP, BUN: blood urea nitrogen, CR: creatinin, ECM: Exra cellular Matrix

<KWD>Keywords: **DN**: Diabetic nephropathy; **GBM**: Glomerular basement membrane; **MCP-1**: Macrophage chemotactic protein-1; **ESRD:**end-stage renal disease; **FPG:**fasting plasma glucose; **GFR:**glomerular filtration rates; **T1DM:**type 1 diabetes mellitus; **T2DM:**type 2 diabetes mellitus.

Introduction

Diabetic nephropathy (DN) is the most prevalent diabetes associated in the complication of cardiovascular disorders. It is a major cause of cardiovascular mortality It will impaired the renal function of diabetes mellitus patients. The number of patients with chronic kidney disease (CKD) developing to end-stage renal disease (ESRD) and required renal replacement therapy,is increasing all over the world. Chronic Kidney disease affects over 20 million adults in the USA and over 13 million adults in Japan .Glomerular damage has to progressed to clinical albuminuria with GFR 40-59ml per minute .Due to AGEP basement membrane will be thicken.Urine will be dipstick positive and containing more than 300 mg of albumin in a period of 24 hour .Diabetic nephropathy has been determined into stages: microalbuminuria and macroalbuminuria. The cut-off values of micro- and macroalbuminuria are arbitrary and their values have been questioned. Subjects in the upper-normal range of albuminuria seem to be at high risk of progression to micro- or macroalbuminuria and they also had a higher blood pressure than normoalbuminuric subjects in the lower normoalbuminuria range. Diabetic nephropathy screening is made by measuring albumin in spot urine. If it is abnormal,Then it should be confirmed in two out three samples collected in a three to six-months interval. Additionally, it is recommended that glomerular filtration rate is routinely estimated for appropriate finding of nephropathy, some patients present a decreased glomerular filtration rate when urine albumin values are in the normal range. Glomerular damage continues with increase in amount of protein albumin in the urine.kidneys filtering ability is to be decrease steadily.Blood urea nitrogen BUN and creatinine Cr increase steadily.Hypertension(High blood pressure) increase in 3rd stage .Glomerular filtration rate GFR dcrease further more with GFR 15-29ml per minute.

Mostly all patient having hypertension (High Blood Pressure)in 4th stage .In stage 5 End stage Renal disease (ESRD) or Chronic kidney disease(CKD),GFR has fallen to <15ml per minute .in these stage we should do haemodialysis,Peritonealdialysis and kidney transplantation and