WWW.IJRPR.COM

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

A Review: "A Reivew On Diabetes Nephropathy"

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ABSTRACT:-

Diabetes is a chronic disease that occur when the pancreas is no longer to make insulin, or when the body can't make good use of the insulin it produces. The disease burden related to diabetes is high and rising in every country , filled by the global rise in the prevalence of obesity and unhealthy lifestyles. The latest estimates show a global prevalence of 382 million people with diabetes in 2013,expected to rise to 592 million by 2035.

INTRODUCTION:

Definition of diabetes mellitus
Diabetes mellitus is a group of metabolic diseases characterized by chronic hyperglycemia resulting from defects in insulin secretion , insulin action , or both.Metabolic abnormalities in carbohydrates , lipids ,and proteins result from the importance of insulin as an anabolic hormone.

Diabetes epidemic becomes apparel t. Worldwide, the prevalence of diabetes was estimated at 171 million in 2000, increasing to 382 million in 2013; and is projected to reach 592 million by 2035.This represents 8%–10% of the global population , resulting inat least 548 billion dollars in health expenditure on diabetes care. Type 2 diabetes constitutes about 85%–95% of all diabetes cases. In the US alone for 2011, 25.8 million children and adults have diabetes with another79 million having a pre diabetic state.2

DIABETES NEPHROPATHY

Diabetic nephropathy is the leading cause of end stage renal disease world wide and is associated within creased cardiovascular risk. Micro albuminuria. Tight blood glucose and blood pressure control reduce the risk of micro albuminuria.
Stages
A doctor may break down the stags of kidney disease, depending on the GFR ,which also represents the percentage of effective kidney function.
Stage1: Kidney damage present but normal kidney function and a GFR of 90% or above.
Stage2: Kidney damage with some loss of function and a GFR of 60–89%.
Stage3: Mild to severe loss of function and a GFR of 30–59%.
Stage 4 : Severe loss of function and GFR of 15–29%.
Stage5: Kidney failure and a GFR of under 15%.

End stage renal disease
Damage to the kidney putsst reason these vital organs and prevents them
From working properly. When this happens:
The body starts to lose protein through the urine.
The kidney scan not remove waste products from the blood.
The kidney scan not maintain healthy fluid levels in the body. Diabetic nephropathy develops slowly. According to one study, a third of people show high levels of albumin in the irurine 15 years Trusted Source after a diagnosis of diabetes. However , fewer than half of these people will develop full nephropathy

FACTORS ASSOCIATED WITH DIABETICNEPHROPATHY

Cardiovascular disease

Many studies over the last 10 years have emphasized the close links between diabetic nephropathy and cardiovascular disease. Asalbuminuriarises, cardiovascular risk cardiovascular risk and diabetic nephropathy.
Cardiovascular risk increase as nephropathy progresses. In type 2 diabetes:
Risk is increased 2–3 fold in microalbuminuric compared withnormal buminuric patients.
Risk is increased 10 fold in proteinuric compared with normal buminuric patients.

Average life expectancy on dialysis is two years, main cause of death being cardiovascular.
Rises , in both type 1 and type 2 diabetes .In type 1 diabetic patients with microal buminuria the relative risk of cardiovascular death is 1.2 times that of normal buminuric type 1 diabetic patients , andinproteinuria the risk is increased 10- fold . In type 2 diabetes, a meta-analysis suggested a 2–3 - fold increase in 5 cardiovascular risk in microal buminuric compared with normal buminuric type 2 diabetic patients, ND in proteinuric patients the risk is increased 10-fold . In the United Kingdom Prospective Diabetes Study (UKPDS), annual rates of death from cardiovascular causes were 0.7 % for normal buminuric individuals, 2.0 % in those with micro albuminuria, 3.5%in proteinuric patients, and 12.1 % in those with raised serum creating in eoron RRT. This increasing trend is no explained by the excess of traditional.

NEW DRUG TREATMENTS FOR TYPE 1 AND TYPE 2 DIABETES.

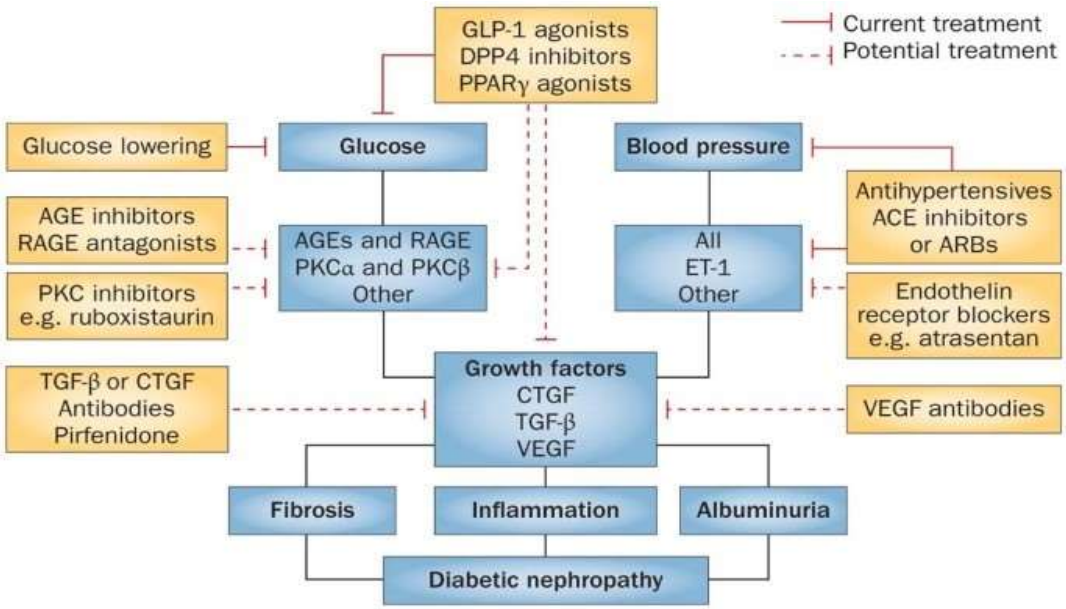

Figure 1. – Diagnosis and Treatment Of Diabetes Nephrothy.

A range of medication scan help treatdiabetes and its complications. Treatment for type1 diabetes always involves in sulin. This replaces absentinsul in and keeps blood sugar levels steady.

Insulin
People can self-injecting sulin under the skin, or, if hospitalized, a doctor might inject insulin directly in to the blood. It is also available as a powder that people can breathe in. Some people prefer to use in sulin pumps, which are small devices that sending sulin through tubes inserted into the ski.
Sulfonylureas these drugs improve secretion of insulinin to the blood by the pancreas. People use the following new ermedicines most often, as they are less likely to cause adverse effects:

Sulfonylureas include:

Glimepiride(Amaryl) Glipizide(Glucotrol) Glyburide(DiaBeta,Micronase,Glynase) Meglitinides
Meglitinides also enhance insulin's cretion.These might also improve the effectiveness of the body in releasing insulin during meals, and include:
Repaglinide(Prand) Biguanides
Biguanides boost the effect of insulin. They reduce the amount of glucose the liver releases into the blood. They also increase the uptake of blood glucose into the cells. Met form in is the only licensed biguanide in the United States, in the form of Glucophage, Glucophage XR,Glumetza,Riomet,and Fortamet.
Thiazolidinedione Thiazolidinedione's reduce the resistance of tissues to the effects of insulin. They have been associated with serious side effects, so they need monitoring for potential safety issues. People with heart failure should not use these medications, which include. Pioglitazone (Actos)

rosiglitazone (Avandia) Alpha-glucosidase inhibitors

Dipeptidylpeptidase inhibitors

Dipeptidylpeptidase(DPP-4)inhibitors slow the rate of the stomach contents emptying further along the gut, and so slow down glucose absorption.
Semaglutide(Rybelsus) alogliptin(Nesina) linagliptin(Trident)
Sodium-glucose-transporter 2 inhibitors
Sodium-glucoseco-transporter2 (SGLT2) inhibitors cause the body to expel more glucose into the urine from the blood stream. They might also lead to a modest amount

Of weight loss, which can be a benefit for type 2 diabetes. Canagliflozin(Invokana)
dapagliflozin(Farxiga) empagliflozin(Jardiance)Incretinmimetics
Incretinmimetics are drugs that mimicthehormoneincretin,which stimulates insulin release after meals. These include:
Exenatide(Byetta,Bydureon) liraglutide(Victoza) dulaglutide(Trulicity) Oral combination drugs
A variety of products that combine some of the drugs mentioned above is available. These include:
Semaglutide(Rybelsus) Alogliptinandmetformin(Kazano)Alogliptinandpioglitazone(Oseni)

TEATMENTOFDIABETICNEPHROPATHY

Early treatment cande layer prevent the one set of diabetic nephropathy. The main aim of treatment is to maintain and control blood glucose levels and bloodpressure.This may involve the use of medication

If a person has kidney disease, their doctor may ask them to keep track of the following nutrients : Water : Although essential, too much water or fluid may increase the risk of swelling and high blood pressure.
Sodium: This can raise blood pressure as it is a constituent of salt. Protein: For a person with kidney disease, protein can cause waste to build up in the blood, putting extra pressure on the kidneys.
Phosphorus: This occurs in many protein and dairy foods. Too much phosphorus can weaken the bones and put pressure on the kidneys.
Potassium: People with kidney disease can have higher level so potassium than is healthful, which can affect nerve cells. The high potassium foods a person should avoid if t hey have kidney disease.
Late-stage treatment options If diabetic nephropathy progresses to ESRD, a person will need either dialy sisora kidney transplant. They will usually need dialysis for the rest of their life or until a kidney transplant is available.
Dialysis If the kidneys stop working effectively,dialysis may be necessary. Kidney dialysis a procedure that typically uses a machine to separate waste products from the blood and remove them from the body. Dialysis acts as a substitute for a healthy kidney. There aredifferent types of dialysis:
Hemodialysis:
Blood leaves the body through a needle in the fore arm and passes through a tube to a dialysis machine.

Through another tube an needle. Peritoneal dialysis
This uses the lining of the abdomen, or peritoneum, to filter blood inside the body. In continuous ambulatory per it one AL dialysis(CAPD),dialysis fluid enters the abdomen through a catheter.
Kidney transplant A doctor may recommend a kidney transplant if diabetic nephropathy reaches the final stages and if a suitable on or can provide a kidney. Finding adonormay take some time.
Prevention the best way for someone with diabetes to reduce their risk of diabetic nephropathy is to manage their blood sugar levels and blood pressure correctly. Lifestyle changes that can help with this include:

- *eating a nutritious dietthatis high in fiber and low in sugar, processed carbohydrates,and salt*
- *exercising regularly*
- *limiting alcohol intake*
- *avoiding tobacco*
- *checking blood glucose levels regularly*

ACEINHIBITORSINDIABETICNEPHROPATHY:

Angiotensin II receptor Blockers (ARBs):They include candesartan,irbesartan, losartan, and telmisartan. The combination of these medicines may provide greater protection to kidneys than either medicine alone.

Calcium Channel Blockers(CCBs):These lower blood pressure by making it easier for blood to flow through the vessels. Examples include ediltiazem,verapamil,amlodipine and nifedipine.
Diuretics: Medicines such as chlorothalidone,hydrochloro thiazideorspirono lactone help lower
Blood pressure by removing sodium and water from the body.
Beta-blockers: These lower blood pressure by slowing down heart beat and reducing the amount of blood pumped with each heartbeat .Examples include atenolol,carvedilol and metoprolol.

CONCLUSION:

Ashwagandha Diabetic nephropathy is currently the single commonest indication for renal replacement therapy worldwide, and in most countries the numbers of patients with diabetes developing end stage renal disease continues to increase. There is good evidence that tight blood glucose and blood pressure control reduce the risk of developing nephropathy. Once urine albumin excretion is increased, reduction of in traglomerular pressure using inhibitors of the reninangiotens in system and tight control of systemic blood pressure will delay progress into end stage renal disease.

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