



NEPHROPATHY PROTECTIVE DRUGS FOR DIABETES TYPE-II: AN AYURVEDIC PROSPECTIVE

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ABSTRACT

A kidney is one of the most active organs of the body. In twenty-four hours, both the kidneys filter about 120 to 150 quarts of blood, out of which about 1 to 2 quarts of urine is formed, composed of wastes or unwanted materials. This way it purifies the blood and forms the urine. It executes its function through the millions of filtering units called as nephrons. When the nephrons are damaged, it is termed as nephropathy, which is a chronic loss of kidney function usually occurs with diabetes mellitus due to hyperglycemia. Nephropathy is a serious complication and cause of death in most of the diabetic cases. That is the reason that diabetic patients have a high rate of mortality and morbidity compare to other chronic disorders. However, there are no specific preventive measures found for the diabetic nephropathy. In the Ayurvedic ancient science of health, few drugs have been described to be effective on *Mutravaha Srotasa*, *Vrikka* or kidney and it also potentiates the therapeutic efficacy to prevent the nephron damage as well improve the renal filtration.

KEYWORD: Diabetes type-II, *Mutravaha Srotas*, Nephropathy, protective drugs, *Vrikka*.

INTRODUCTION

A nephron is a structural and functional unit of the kidney,^[1] which filters the blood and forms the urine from it.^[2] In diabetic patients due to the high level of sugar in the blood, the function of the unit is likely to hamper^[3] and unable to execute the blood filtration. This condition of kidney is known as diabetic nephropathy.^[4] It is characterized by increasing frequency of urine while its quantity is reduced^[5] along with swelling in the body, most often in the feet and legs.^[6]

Epidemiology of Diabetic Nephropathy

Diabetes Mellitus is growing worldwide epidemic. Nephropathy is one of the most prevalent complications of diabetes.^[7] It was estimated that in the United State only, diabetic nephropathy affected nearly 6.9 million people from 2005 to 2008.^[8] The number of patients with diabetes and related diabetic nephropathy is expected to rise considerably by 2050.^[9] As per the survey of World Diabetes Foundation about Diabetic nephropathy: 10-20% of people with diabetes die of kidney failure.^[10]

Importance of study

As the diabetic population is increasing, it is likely to increase the patients of its diabetic nephropathy.^[11] Therefore, the economic burden is also increased on a patient, its family and subsequently on the entire society.

Moreover, the patient becomes more depended and requires assistance for day to day activities from family members due to his or her physical inabilities. This way, diabetic nephropathy not only troubles patient himself but also its family members. Hence, it is needed to take care of the disease. There are no such preventive measures of diabetic nephropathy in conventional science,^[12] whereas in Ayurvedic system of medicine have some herbo-mineral drugs, can be used to protect the renal disorders including diabetic nephropathy.

Taking into consideration of the epidemiological figure and importance of study, there is an earliest need to get preventive management of the diabetic nephropathy.

Punarnava:^[13]

Latin Name: *Boerhavia diffusa* Linn.

Family: *Nyctaginaceae*

Parts used: Whole Plant (*Panchanga*), Root (*Moola*), Leaf (*Patra*)

Ayurveda Properties

Rasa: *Katu, Tikta, Kashaya*

Guna: *Laghu*

Virya: *Ushna*

Vipaka: *Katu*

Effect on Dosha: *Kapha Pitta Shamana*

Gokshura:^[14]**Latin Name:** *Tribulus terrestris* Linn.**Family:** Zygophyllaceae**Parts used:** Root (*Moola*), Fruit (*Phala*), Whole Plant (*Panchanga*)**Ayurveda Properties****Rasa:** Madhura**Guna:** Guru, Snigdha**Virya:** Sheeta**Vipaka:** Madhura**Effect on Dosha:** Kapha Vata Shamana**Shilajeet:**^[15]**English Name:** Asphaltum Punjabanum**Parts Used:** Nirayasa**Ayurveda Properties****Rasa:** Tikta, Lavana**Guna:** Guru, Snigdha, Mrudu**Virya:** Sheeta**Vipaka:** Katu**Effect on Dosha:** Kapha Vata Shamana**Bhooamalaki:**^[16]**Latin Name:** *Phyllanthus niruri* Linn.**Family:** Euphorbiaceae**Ayurveda Properties****Parts used:** Whole Plant (*Panchanga*)**Rasa:** Kashaya, Amla, Madhur, Tikta**Guna:** Laghu, Ruksha**Virya:** Sheeta**Vipaka:** Katu**Effect on Dosha:** Pitta Kapha Shamana**Varuna:**^[17]**Latin Name:** *Crataeva nurvala* Linn.**Family:** Capparidaceae**Ayurveda Properties****Parts used:** Root (*Moola*), Bark (*Twaka*), Leaf (*Patra*)**Rasa:** Kashaya, Madhura, Tikta**Guna:** Laghu, Ruksha**Virya:** Ushna**Vipaka:** Katu**Effect on Dosha:** Kapha Vata Shamana**AIM AND OBJECTS**

The present review work is aimed to compile the Nephropathy protective drugs for Diabetes type-II from Ayurveda point of view.

MATERIALS AND METHODS**Conceptual Material**

For the present article, the conceptual material is collected from various literatures, which includes several classical texts, contemporary texts, various articles published in International/ National journals/ magazines and data obtained from the internet.

DISCUSSION

The nephropathy is a common condition in chronic diabetic type-II patients, in which renal function is hampered critically.^[18] On the Ayurvedic aspect, *Vrikka* is a term used for the kidney.^[19] The function of *Vrikka* is affected in diabetic nephropathy. There are some of the drugs having a positive effect on *Mutravaha Stortas* or renal nephron, explored with their properties, which can be helpful for the prevention of nephropathy in type-II diabetic patients.

CONCLUSION

On the basis of the review article, it can be suggested that Ayurvedic herbo-mineral drugs like *Punarnava*, *Gokshura*, *Shilajeet*, *Bhooamalaki*, and *Varuna* have enough scope to prevent the nephropathy in type-II Diabetes.

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