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Case Study

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EFFECT OF *AYURVEDIC* TREATMENT IN DIABETIC NEPHROPATHY: A CASE STUDY

Deshpande Shailesh Vinayak*[1], Kadam Maruti Dhondiram[2] and Deshmukh Satyajit Pradip[2]

[1]Associate Professor in Kayachiktsa, PDEA's College of Ayurved and Research Centre, Pune, Maharashtra, India.
[2]MD (Scholar) (Kayachiktsa), PDEA's College of Ayurved and Research Centre, Pune, Maharashtra, India.

***Corresponding Author: Dr. Deshpande Shailesh Vinayak**

Associate Professor in Kayachiktsa, PDEA's College of Ayurved and Research Centre, Pune, Maharashtra, India.

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ABSTRACT

Aim and Background: Nephropathy is leading complication of Diabetes (DM) that affects about 40% of diabetics. It needs intense management, such as dialysis and may lead to renal transplant and badly affects quality of life. With limited options available in modern medicine, following *ayurvedic* principles of diagnosis and treatment can be useful. **Case Description:** A 65 years old female patient, known case of DM for 24 years, with bilateral pedal edema, puffiness of face, frequent nocturnal micturition, nausea, vomiting, weakness and hiccups visited hospital. Her renal and diabetic profiles were deranged (serum creatinine 3.0 milligrams per deciliter (mg/dl), blood urea 50 mg/dl, blood sugar fasting 245 mg/dl and post prandial 345 mg/dl) with protein urea. Patient was taking oral hypoglycemic agent and insulin. She was case of diabetic nephropathy. According to principles of *ayurveda* she was diagnosed as case of '*prameha updrava janya kapha pitta pradhan vrukka roga'*. She received combination of *hajrat yahud bhasma* 125mg, *punarnava, varuna, ushira, amalaki* each 250 mg before food twice daily, fresh decoction of *trina panchamoola* 50 ml twice daily and *chandraprabha vati* 250 mg before food twice daily. **Outcome:** After three months of treatment patient showed significant relief in symptoms. Significant drop down was seen in renal profile and sugar (serum creatinine1.1 mg/dl, blood urea 40 mg/dl, blood sugar fasting 114 mg/dl, post prandial 203 mg/dl) with decrease in protein urea. **Conclusion:** Significant relief can be achieved in patients of nephropathy by applying principles of diagnosis and treatment of *prameha* and *vrukkaroga*. It's single case study and can lay down road ahead for further research.

KEYWORDS: Diabetic Complications, Chronic Kidney Diseases, *Vrukka Roga*, Serum Creatinine.

BACKGROUND

Diabetic nephropathy is a global threat to health in general and for developing countries in particular because therapy is expensive and lifelong. In India, 90%patients cannot afford the cost. Diabetic nephropathy refers to an irreversible deterioration in renal function which classically over period of years. Initially, it is manifested only as a biochemical abnormality. Eventually, loss of excretory, metabolic and endocrine function of the kidney leads to the development of the clinical symptoms and signs of renal failure, which are referred to as uremia. When death is likely without renal replacement therapy (RRT), it is called end stage renal failure (ESRF)[1] it would be interesting to know that the incidence of chronic kidney disease in India, which densely populated country with low income, different food, cultural tradition and lifestyle habits, is 7.85 million of its 1 billion population and the prevalence rate is 0.78%[2] Over 1 million people worldwide are alive on dialysis or with a functioning graft.[3]

Diabetic nephropathy is typically defined by microalbuminuria that is urinary albumin excretion of more than 300 mg in a 24-hour collection or microalbuminuria and abnormal renal function as represented by an abnormality in serum creatinine, calculated creatinine clearance or glomerular filtration rate (GFR). Clinically, diabetic nephropathy is characterized by progressive increase in proteinuria and decline in GFR, hypertension and a high risk of cardiovascular morbidity and mortality.

As per *ayurvedic* classics, *upadravas* of *prameha* are *nausea*, vomiting, edema, indigestion, hiccups. These symptoms are seen as*upadrava* due to *kapha and pitta.* Though complications of *prameha* are well written in all classical treatises there is no clear mention of pathology that can clarify *dosha-dushya sammurchchhana* involved in them. Considering nephropathy, *Vrukka Roga* mentioned in '*Bhaishajyaratnavali* '[7] matches very well with sign and symptoms of diabetic nephropathy.

CASE DESCRIPTION

A female patient of 65 years presented in outpatient department of *Ayurveda Rugnalaya* and Sterling Multispecialty Hospital in August 2016 with complaints

of bilateral pedal edema, nausea, vomiting, generalized weakness, hiccups, frequent nocturnal urination from 25days. She was known case of DM (type 2), hypertension for 25 years. She was taking combination of gliclazide 80 milligram (mg) and metformin 500 mg twice daily, injection huminsuline 30/70 in dose of 25 units before breakfast, 20 units before lunch and 25 units before dinner subcutaneously, Metoprolol 25mg once per day. Despite oral hypoglycemic agents and insulin patient did not have good glycemic control. Blood investigation showed serum creatinine 3.0milligram per deciliter (mg/dl), blood urea 50mg/dl, BSL F – 245mg/dl. Urine examination showed moderate protein and sugar loss.

Diagnosis

In view of modern sciences, it was clearly a case of Diabetic Nephropathy. According to Ayurveda the patient clearly showed symptoms of *Prameha Upadrava* such as vomiting *(chhardi)*, nausea *(hrillas)*, weakness *(daurbalya)*[4] But precise diagnosis established was *Prameha Upadrava Kapha Pitta Pradhan VrukkaRoga*.

Treatment Given

Patient received *Chandraprabha Vati* 500 mg twice a daily before food, combination of *hazrat yahud bhasma* 125 mg, punarnava *(Boerhavia diffusa)*, varun *(Crataeva nurvala)* ushir *(Vetiveriazioz anoiodis)* amalaki *(Emblica officinalis)* each 1 gm. This combination advised to take before food half an hour food with lukewarm water. Freshly prepared decoction of *Trunpanchmula* (combination of *Kush (Desmostachyabi pinnata)*, *Kash (Saccharum spontaneum)*, *Darbha (Saccharum munja)*, *Nal (Sacharum officinorum)*, *Kandeshu*) 50ml daily twice a day after food and *Prawal Panchamrut* 250 mg twice a day before food. This treatment advised for three months. All other allopathic treatment for hypertension and diabetes were continued as before, but patient did not take any treatment other than *ayurvedic* treatment for nephropathy.

Treatment Outcome

After 15 days of treatment, bilateral pitting pedal edema, nausea and vomiting were reduced. After one month of treatment marked reduction in serum creatinine levels was seen (1.9 md/dl) and significant relief was seen in *Chardi* (Vomitting), *hrullas* (Nausea), *Daurbalya* (General weakness). After two months, serum creatinine levels were within normal limits (1.5 mg /dl) and patient did not show any symptoms. She was advised to continue the treatment and latest creatinine levels are well within normal range (1.1 mg/dl after three months of treatment). Blood sugar fasting was 114 mg/dl and post prandial 202 mg/dl which showing good glycemic control. And in urine routine microscopic decrease proteinuria. (Table No.1).

Table No. 1: Time Line.

Base line.	Signs and Symptoms	Investigations
29/09/2016	*Ubhaypaadshota (*bilateral pedal edema), *Chardi* (vomiting), *hrullas (*nausea), *Daurbalya (*General weakness), *Naktamutrata* (frequent nocturnal micturition) *Hikka (hiccough).*	BSL(fasting) – 245 mg/dl BSL(post-prandial) – 345 mg/dl Blood urea level – 50 mg/dl Serum creatinine – 3.0 mg/dl Urine routine and microscopic – Showed moderate protein and sugar loss (protein ++, sugar ++)
After one month follow up 20 /10/2016	Relives symptoms of *Ubhaypaadshota (*bilateral pedal edema), *Chardi* (vomiting), *hrullas(*nausea), *Hikka (hiccough).*	BSL (Fasting) – 202mg/dl BSL (post –prandial) – 230 mg/dl Blood urea level – 54 mg/dl Serum creatinine – 1.8 mg/dl
After two months follow up 24/11/2016	Above symptoms are markedly relives. including *Daurbalya (*General weakness)	BSL(Fasting) –180 mg/dl BSL (post-prandial) – 220mg/dl Blood urea level – 45mg/dl Serum creatinine – 1.5 mg/dl.
After three months follow up 24/12/2016	Showed significant relief in all above mention symptoms.	BSL (Fasting) – 114 mg/dl BSL(post –prandial) – 202 mg/dl Blood urea level - 40 mg/dl Serum creatinine – 1.1 mg/dl Urine routine and microscopic – showed mild protein and sugar loss (protein + sugar +)

DISCUSSION

Diabetic Nephropathy is characterized by excessive urinary albumin excretion followed by loss of kidney function. It is a result of reduced glomerular filtration rate (GFR). It has been classified in five stages.[5] Protinuria is hallmark of Diabetic Nephropathy. It begins as transient microalbuminurea with preserved GFR in early stage I. As GFR reduces to 50%, there is persistent proteinurea, raised serum creatinine, hypertension and edema (stage IV), which reaches to end stage renal disease (stage V) as GFR reduces. In view of this classification, the current patient was in late stage IV of diabetic nephropathy. Patient in this stage need meticulous treatment for preservation of renal tissue.[5]

As per *ayurvedic* classics, *upadravas* of *prameha* nausea, vomiting, edema, indigestion, hiccups these symptoms are seen as *upadrava* due to *kapha and pitta.* Though complications of *prameha* are well written in all classical treatises there is no clear mention of pathology that can clarify *dosha dushya sammurchchhana* involved in them. Considering nephropathy, *Vrukka Roga* mentioned in '*Bhaishajyaratnavali'* matches very well with sign and symptoms of diabetic nephropathy. So, pathology of Diabetic nephropathy from *ayurveda'*spoint of view can be considered according to *Vrukka Roga* mentioned in *Bhaishajyaratnavali.*[6]

If symptoms of *upadrava* of *prameha* and *vrukka roga* are considered the patient can be diagnosed as case of*'prameha upadravajanya kapha pitta pradhan vrukkaroga*'. *Acharyas* have advised to use combination of herbal medicines which have functions such as *mutral, deepen, pachan, raktaprasadak, virechak* and *rasayana*.[7]

Patient received *chandraprabha vati* which reduces *kapha, pitta, dhatushaithilya* (laxity), *kleda,* well known for its action on *mutrendriya (basti)*[8] Hence, it acts as *rasayana* for *mutravaha srotasa*. She received combination of *hazrat yahud bhasma* (silicate of lime) which is *mutral, pittashamak,* and reduces *mutrakruchhra*[9] *Punarnava (Boerhavia diffusa)* is an excellent medicine in this condition due to its *tridoshar, kaphapittashamak, shothhar, mutrajanan* properties.[10] *Varun (Crataeva nurvala)* also pacifies *kapha* and *vata* and especially reduces pain in *basti.* It is well known as mutramargsankramana[11] Ushir *(Vetiveriazio zanoiodis)* is *sheeta* and also helps as *mutrajanan.*[12] *Amalaki (Emblica officinalis)* is well known for its *pramehaghna, rasayana* and *pittashamak* effect.[13] *Trunpanchmul* is combination of *kush (Desmostachya bipinnata), kash (Saccharums pontaneum), shara (Saccharum munja), ikshu (Sacharum officinorum), kandeshu.* The combination is well known for its effect on urinary system. It is *tridoshghna, mutral* and works on *vrukkaroga.*[14] Hence the combination of medicines along with decoction of *trunapanchamula* could have shown good effect in improving renal function. *Prawalpanchamrut* was useful due to its *sheeta, deepana* properties.[15]

CONCLUSION

As the number of diabetics is growing in India as well as worldwide, number of patients suffering from nephropathy will also rise. Hence it is high time to improvise our treatment plans and help to answer complicated situations such as Diabetic nephropathy. It is an observation in a single case and more studies in this direction would help in establishing *ayurvedic* treatment in this condition.

Significant relief can be achieved in patients of nephropathy by applying principles of diagnosis and treatment of *prameha* and *vrukkaroga*. It's single case study and can lay down road ahead for further research.

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