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A Review on the Treatment of Kidney Failure (Renal Failure) with Traditional Herbal Medicine as a New Perspective

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ABSTRACT

Nowadays the frequency of death due to renal failure is increasing day by day in India, two deaths every five minutes. That is how many kidney disease victims die in India - two lakh a year or roughly 547 everyday. The high incidence of death from kidney failure is not only because of lack of awareness and early detection, but also due to shortage of dialysis equipment, the high cost of transplant surgery, and new, stringent government regulations regarding organ donation. Above all, although if all facilities are available, the life spans of kidney transplanted individuals are too short. Every ethnic community in Manipur has well-established knowledge, skills, beliefs and practices relating to promotion of positive health and avoidance of sickness even before the hospital oriented system of medicine. It is reported from some villagers in Manipur (Nambol and Toubul) that there are evidences of recovering of patients with renal failure and advised for kidney transplantation by treating with the extracted liquor of the green leaves of one medicinal plant (Local name-Chom, Scientific name-*Oreopanax xalapensis* L.). One surprising report is that when we visited one village in Lamlongei Saban Leikai in Lamsang for collection of the plants, the villagers used to cultivate the plants in their kitchen garden and they used to take the leaves of the plant in different preparations as normal dish. When inquired about the incidence of renal failure in the village, the villagers hardly noticed the disease in their village. So it is the hard time to do investigations in the plant parts for the synthesis of new compounds and pharmaceutical products for the welfare of the human species.

KEYWORDS:

Renal failure, traditional medicine, rare medicinal plant, time tested, green leaves, villagers, Chom.

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INTRODUCTION

Kidney failure, also known as **renal failure** or **renal** insufficiency, is a medical condition of impaired **kidney function** in which the **kidneys** fail to adequately filter metabolic wastes from the blood. Renal failure may be due to several reasons. In 2008, Stephen David¹ wrote “2 lakh die of kidney disease every year in India. The need of the hour is to have more and more kidney disease detection clinic and take steps to arrest the deaths due to kidney failure”. According to the report, two deaths occur every five minutes. That is how many kidney disease victims die in India - two lakh a year or roughly 547 everyday. One of India's well known nephrologists, or kidney specialists, H. Sudarshan Ballal, told India Today that kidney disease is a silent killer. Ballal, also director of nephrology at the Karnataka capital's big Manipal Hospital said that many people get their blood pressure and cholesterol levels checked on a regular basis, but fail to get separate "creatinine test" done to detect often painless and therefore unknown kidney problems. The high incidence of death from kidney failure is not only because of lack of awareness and early detection, but also due to shortage of dialysis equipment, the high cost of transplant surgery, and new, stringent government regulations regarding organ donation. The natural products are a main resource for medicinal agents. So scientific findings are reported from natural products which has many new antifungal agents.

Above all, although if all facilities are available, the life span of kidney transplanted individuals is too short. Every ethnic community in Manipur has well-established knowledge, skills, beliefs and practices relating to promotion of positive health and avoidance of sickness even before the hospital oriented system of medicine. There are reports from the villagers or traditional healers of Manipur that those patients with renal failure and waiting for transplants used to recover to normal when they are treated with the extracts of the green leaves of one medicinal plant (Local name- Chom, and scientific name – *Oreopanax xalapensis*). So the need for basic and advanced analysis of the plant are being discussed here.

MATERIALS AND METHOD

1. Visit and interview of villagers regarding the use of the plant parts of Chom for which particular ailment.
2. Survey, collection and plantation of Chom (*Oreopanax xalapensis*) from conservation point of view and for further studies for the welfare of human species.

RESULTS AND DISCUSSION

Nowadays renal failure is the most dreaded disease in India and other countries. As Stephen David reported in 2008, two deaths are recorded every five minutes. Hypertension and diabetes, the most common causes of chronic kidney disease, are particularly common in Southeast Asian Countries. Because early intervention can markedly slow the progression of these two killer diseases, assessment of their presence through screening and intervention program is a priority². Early life low weight coupled with high salt intake may be a risk factor for arterial hypertension in Indian children³. In spite of all the facilities for treatment of renal failure are available in government and private hospitals, the life span for kidney-transplanted individuals is too short.

There is a wonderful plant species known in botanical name as (*Oreopanax xalapensis* L). It is a plant of promising medicinal value which is growing wild in Manipur, Nagaland, Assam and Meghalaya. This plant is highly efficacious in the treatment of kidney failure with 100% success if detected early. But someone may get confused to identify the real one, as there are five similar species and one of them is considered as the best one to cure the renal failure. So, proper identification is much required before treatment starts off⁴. Fresh green leaves were plucked and boiled them for 15 to 20 minutes and drink the decoction daily until complete healing is achieved. In 2004, I have treated one woman with this simple herb and she was fully recovered and she is still alive. I have treated two women also and series of clinical test conducted and both have recovered and they are working actively in their respective fields. Any interested traditional healer whose area of expertise is to heal renal failure may contact them to get comprehensive accounts for further research documentation⁴.

As our team surveyed along the NH 39 up to Karong we noticed two different shapes of leaves of *Chom* plant. We are confused as if the two shapes of leaves are of two different plant species of *Chom*. But when we did survey along Lamsang road we interviewed some older dwellers of Lamlongei Saban Leikai and found that they used to cultivate the plant in their kitchen garden as other vegetables and they used to cook the young leaves in different forms as *Iromba* (Vegetable mixture with roasted fermented fish) and *Kangsu* (A special dish with cooked leaves, removed water and mixed with soaked, fried and powdered peanuts and salt and roasted fermented fish and also some steamed fish may be added for better tastes).

When we inquired about the different shapes of the leaves they told it to be because of age differences of the plant. The young leaves have lesser serration than the older ones (Fig. 1 and 2). Also it is found that they used to drink the decoction of the boiled leave as Champhut (Vegetable soup). And when inquired about the occurrence of renal failure in their village they replied it to be seldom happened⁵. So it is the hard time for the researchers to investigate the usefulness of the plant parts in recovering renal failure for the welfare of the human species.



Fig. 1: *Oreopanax xalapensis* plant. The older young ones.

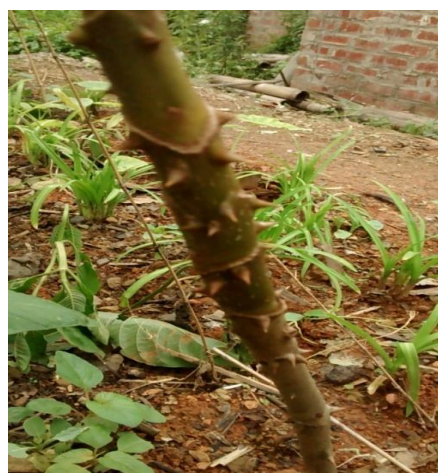


Fig. 2: Spiny stem of *Oreopanax* leaves are more serrated than the *xalapensis* plant.



Fig. 3. *Oreopanax xalapensis* plant collected from Karong area during the survey programme.



Fig. 4. *Oreopanax xalapensis* from Sekmai.

Traditional medicines are a principal form of health care for many populations, particularly in low- and middle-income countries, and they have gained attention as an important means of health care coverage globally. In the context of kidney diseases, the challenges and opportunities presented by traditional medicine practices are among the most important considerations for developing effective and sustainable public health strategies. However, little is known about the practices of traditional medicines in relation to kidney diseases, especially concerning benefits and harms. Kidney diseases may be caused, treated, prevented, improved, or worsened by traditional medicines

depending on the setting, the person, and the types, modes, and frequencies of traditional medicine use. Given the profound knowledge gaps, nephrology practitioners and researchers may be uniquely positioned to facilitate more optimal public health strategies through recognition and careful investigation of traditional medicine practices. Effective implementation of such strategies also will require local partnerships, including engaging practitioners and users of traditional medicines. As such, practitioners and researchers investigating kidney diseases may be uniquely positioned to bridge the cultural, social, historical, and biologic differences between biomedicine and traditional medicine, and they have opportunities to lead efforts in developing public health strategies that are sensitive to these differences⁶.

Although there are records of improvement of patients with renal failure by treatments with *Oreopanax xalapensis*, it is not known to the whole state, but only to some localized regions. That is why the frequency of death due to renal failure increases in Manipur also. Unless a herb is tested and investigated for its side effects, it is not safe to be commercialized.

Herbal-induced renal disease constitutes an important aetiology of renal diseases in daily clinical practice. As up to 80% of the population in Africa is estimated to use herbal preparations, which are generally perceived as safe and free from adverse effects, this consumption however has been associated with 35% of all cases of acute kidney injury. Consumption of potentially toxic medicinal herbs, incorrect substitution of harmless herbs with toxic herbs, contamination with toxic compounds or interactions with conventional treatments is the major problems. The source, composition and preparations of these herbs vary on the prevalent local healing practices. Most herbs contain active compounds, however, they are not tested for efficacy and safety; the ingredients are not well known and the dosage and route of administration are not standardized. The use of herbal medicines are association with renal injuries in Africa⁷. The nephrotoxic potential of herbal remedies is being increasingly recognized⁸.

Alternative and indigenous systems of medicine are popular amongst the poorer sections of society in the developing world. Their use in the developed world has also increased in recent times. The source and composition of these medicines vary in different parts of the world, but herbs and other botanicals are central to these systems. Largely outside the ambit of regulatory control, herbal remedies are prepared by quasi-trained herbalists and not tested for safety. Toxicity can occur when a herb with unknown toxicity is consumed, incorrect identification leads to substitution of an

innocuous herb with a toxic one, preparations are contaminated with toxic non-herbal compounds or when a herb potentiates the nephrotoxic effect of a conventional therapy. Renal injury has been reported in association with several herbs. The best-known herb-induced chronic kidney disease (CKD) is aristolochic acid nephropathy. The condition is characterized by progressive interstitial nephritis, with a proportion of patients developing urothelial malignancies. The toxic compound is aristolochic acid (AA); AA-DNA adducts have been identified in the renal and urothelial tissues. Recent evidence suggests that AA also contributes to the development of Balkan endemic nephropathy. The role of herbs has been postulated in the development of CKD in other parts of the developing world, especially amongst the rural population. Public awareness and regulation of use of herbal medicines are required to eradicate this entity from the community⁹.

Renal diseases may occur due to direct renal injury with acute tubular damage and acute interstitial nephritis or by indirect mechanism such as hemolysis and hypovolemic conditions¹⁰. Herbal related kidney injuries constitute important manifestation of renal disease in present clinical practice. In African countries, there are many potential causes of kidney diseases¹¹.

In Manipur also the traditional healers mix unlimited number of herbs in making the traditional herbal medicines knowingly or unknowingly so that by the action of one or the other herb the ailment might be relieved. Eventually the patients have chances of attaining toxic compounds from the preparation. So we must not take herbal medicines blindly unless it is investigated and tested properly.

CONCLUSION

From all the above facts and collection of knowledge from the age old practices of the dwellers of Nambol, Toubul and Lamsang, it can be concluded that *Oreopanax xalapensis* in the near future will become a useful resource for further investigations for curing renal failure. And it will not be right to use herbal medicines without proper investigation as it may cause injury to other organs. So although *Oreopanax xalapensis* is reported to be traditionally effective in treatment of renal failure, it needs thorough investigation prior to commercialization.

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REFERENCES

1. David S. “Two lakhs die of kidney disease every year in India”, Bangalore, October 3, 2008; UPDATED 20:34 IST.
 2. Gallieni M., Aiello A., Tucci B., et. al. “The Burden of Hypertension and Kidney Disease in Northeast India: The Institute for Indian Mother and Child Noncommunicable Diseases Project”, *The Scientific World J. Article ID 320869*, 2014;6. <http://dx.doi.org/10.1155/2014/320869>.
 3. Genovesi, S., Antolini, L., Orlando, A., Brahmochary, S., De Servi, A., Capelli, S., Giussani, M., Nava, E., Agostoni, C., Gallieni, M. (2017). “Poor early growth and high salt intake in Indian infants (Article)”, *International Journal of Food Sciences and Nutrition*, 19 May 2017; 68(4):467-472.
 4. Paochunbou K. “Traditional healing methods with special reference to Manipur”. 7 day short term programme organised by UGC-Academic Staff College, Manipur University, Canchipur, Imphal in 2013.
 5. Visit and interaction with the village people in Lamlongei Saban Leikai, Lamsang, Nambol and Utlou.
 6. Stanifer JW, Kilonzo K, Wang D, Su G, Mao W, Zhang L, Zhang, Nayak-Rao S, Miranda JJ. “Traditional Medicines and Kidney Disease in Low- and Middle-Income Countries: Opportunities and Challenges”, Elsevier, *Semin Nephrol*. doi: 10.1016/j.semnephrol.2017.02.005. May 2017;37(3):245-259.
 7. Liwa C A and Jaka H M. “Review Article: Renal Diseases and Use of Medicinal Herbal Extracts: A Concise Update of Reported Literature in Africa”. *J Nephrol Renal Ther* ISSN: 2473-7313. 2016; 2: 008.
 8. Gabardi S, Munz K, Ulbricht C. A review of dietary supplement-induced renal dysfunction. *Clin. J. Am. Soc. Nephrol*. 2007; 2: 757–65.
 9. JHA V. “Review Article: Herbal medicines and chronic kidney disease”. *Nephrology* 15 2010; 10–17.
 10. Naicker S, Aboud O, Gharbi MB, Epidemiology of acute kidney injury in Africa. *Semin Nephrol* 2008; 28: 348-353.
 11. Stanifer JW, Jing B, Tolan S, Helmke N, Mukerjee R, et al. The epidemiology of chronic kidney disease in sub-Saharan Africa: a systematic review and meta-analysis. *Lancet Glob Health* 2014; 2: 174-181.
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