

# Applying Ayurvedic Principles for Diagnosis and Treatment of Chronic Kidney Diseases: An Integrative Approach

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**Abstract:** *This paper explores the application of Ayurvedic principles and methodologies in diagnosing and treating Chronic Kidney Diseases CKD. It delves into the Anukta philosophy, a concept in Ayurveda that can be utilized to diagnose and treat diseases not explicitly mentioned in Ayurvedic texts. The paper demonstrates how this philosophy can be applied to CKD, a condition that lacks a known Ayurvedic diagnosis. The study involves a comprehensive analysis and scientific interpretation of references related to Kidney in Ayurvedic classical texts using Tantrayukti, a methodology of interpretation of verses. The paper concludes that Kidneys were known to Ayurveda, and their anatomical description and physiology are elaborately mentioned. The paper also suggests that CKD can be diagnosed as Nija Basti Marmabhighata leading to Udara, or Nephrogenic Ascites, based on Ayurvedic principles.*

**Keywords:** Ayurveda, Kidney, CKD, Organs, Anukta, Tantrayukti

## 1. Introduction

Diseases of organs and their treatment is considered as the domain of modern medicine. It is perceived that there is an absence of clear guidance regarding the management of such diseases in Ayurvedic texts. Ayurvedic medicine is mostly considered as useful for chronic diseases, but the history of mankind suggests that Ayurvedic medicine was used to treat all acute and chronic conditions including terminal conditions. Therefore, it is hard to believe that Ayurvedic medicine can have no role in diagnosis and treatment of organs and their diseases.

Currently there is tremendous rise in the number of patients suffering from chronic kidney disease (CKD) and that of other organs. Most of them are required to manage their lives with supportive treatment options, as replacement of these organs is prohibitively expensive and available to a chosen few. The supportive treatment like dialysis in case of CKD is also very expensive and comes with its own set of problems. As a result, majority of patients are left with palliative care and waiting for the inevitable to happen.

Growing number of people even with terminal conditions are willing to explore the realm of Ayurveda. Ayurveda has in its treasure many different approaches to treatment of diseases which are simple yet effective. These are being used since ages to treat many incurable diseases, but diseases of the organs are such an area where even the successful Vaidya feel stuck and those who achieve success in the treatment are not able to establish a reproducible module that others can follow. Academic explanation of this type of treatment, that can establish a cause effect relationship and explain the logical chain of aetiology, pathogenesis, symptoms, and their treatment is missing. A solution that the other Vaidyas can follow, and replicate is

unfortunately not documented. There is an urgent need to devise the line of treatment of diseases of organs which can be viewed as a guideline for upcoming practitioners, scholars, and researchers.

## 2. Materials and Methods

### 2.1 Materials

Compilation of references related to Kidneys and the urinary system from the *Samhitas* that are scattered all over the texts was done, collected references were indexed as per the logical sequence of information in such a way that it will provide the required information for a treating doctor about these diseases i. e., Anatomy, Physiology, pathogenesis, symptoms, prognosis, treatment, complications etc. These textual references were used as the material for this research.

These references were interpreted on the basis of *Tantrayukti*, which is a tool described in Ayurveda to scientifically derive information from the textual quotes as the standard guideline for interpretation of these quotes.

Analysis of these references was done in light of Ayurvedic principles of *Sharir* (~Anatomy and physiology). An effort was done to see whether it helped to connect the missing dots in understanding the pathogenesis of CKD according to Ayurveda. And that whether this facilitated Ayurveda based diagnosis and prognosis that can lead to develop the line of treatment of CKD.

The inferred observations were checked for making an Ayurvedic diagnosis of the condition of patients of CKD of various stages and varied aetiology attending the OPD and IPD.

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## 2.2 Methods

### *Uhya Tantrayukti* to unleash the knowledge hidden in concise sutras.

References in Ayurvedic texts regarding Kidneys, their functions, diseases etc. are very few. If we try to analyze the information with a standard approach it will not yield sufficient information which can be used for diagnosis and treatment of complex diseases like CKD.

For this purpose, the use of “*Uhya*” *Tantrayukti* is recommended. *Charaka* states that the use of *Tantrayukti* is essential to derive the exact meaning of the text. *Tantrayuktis* guide us to the exact meaning like a light in the dark. Studying the Ayurvedic texts without the use of *Tantrayukti* is compared to the futile efforts of an unfortunate person who tries to earn money but is not successful due to his misfortune<sup>[1]</sup>.

*Uhya Tantrayukti* is used in conditions like these when the references are very few. Using “*Uhya*” *Tantrayukti* we can get unlimited information from limited references<sup>[2]</sup> and derive the information described in the text that is not elaborately explained.

In a way it is a scientific way of expanding the logic in the textual references, something like unzipping a file on a computer.

A detailed analysis (collection, elaboration & expansion) of the following textual references regarding kidney was done using “*Uhya*” *Tantrayukti* to understand the applied anatomy, physiology, pathogenesis etc. of chronic kidney disease from the references scattered across the texts.

### Tools for diagnosis of diseases not mentioned in Ayurvedic texts

#### *Anukta & Tantrayukti*

There are many diseases which may not be mentioned in the texts, there are many conditions so complex that they cannot be given a name. The guidelines for the diagnosis & treatment of all such diseases in Ayurveda are very well in place.

They are called as *Anukta* (~diseases /conditions not mentioned in the texts). This inconspicuous section at the end of *Chikitsa sthana* in *Charaka Samhita* section seems to be overlooked. It says that the diseases which are not mentioned here due to constraint of space and **considering the huge volume and number** should also be **treated along the same lines**<sup>[3]</sup>.

On the Same lines means the way other diseases are treated i. e., on the *Dosha, dhatu mala* principles. *Tri - dosha* theory is very central to Ayurveda, which is uniformly used for everything from general principles of health to diagnosis and treatment of diseases.

It says that **ALL** diseases that the mankind suffers are essentially created without exception by *tridoshas* and should be treated as per *doshic* dominance, site, cause, and symptoms<sup>[4]</sup>, just like a bird flying whole day is not able to get rid of its own shadow.

According to this reference it can be inferred that diseases like CKD can also be diagnosed according to the presentation of symptoms and understanding of the pathogenesis based on their *doshic* dominance, involvement, and manifestation of *dhatu*s and *mala* etc.

*Vagbhata* has described symptoms of vitiated *doshas* that covers signs & symptoms of all diseases that can happen to mankind. More than a list of symptoms it is a tool for clinical examination to make a diagnosis of *doshic* dominance in any disease.

It says that, thus the *dosha lakshanas* (~ signs and symptoms) *that are found in ALL Diseases* are described (in the above - mentioned shlokas), a Vaidya should carefully examine them by *darshan* (~visual examination), *sparshan* (~palpitation) and *prashna* (~inquiry) etc. to identify various stages of the disease by constantly observing the patient carefully<sup>[5]</sup>.

Further he says that if we carefully consider all factors like *Dushya* (~body tissues), *Desha* (~habitat), *Bala* (~strength), *Kala* (~time), etc. while making a diagnosis and deciding the treatment of any disease, **it is very unlikely that the treatment will go wrong**<sup>[6]</sup>.

Based on this we can draw an inference that Ayurvedic Acharyas wanted to emphasize that any disease can be diagnosed and treated with Ayurvedic treatment. These references highlight the most important fact that, we need to make an **Ayurvedic diagnosis (doshic dominance, manifestation of dhatu's and mala's etc.)** of the condition / disease before proceeding with the treatment.

### Ayurvedic Diagnosis of CKD

The classification of diseases of urinary system is divided in two basic categories in Ayurvedic texts.

- 1) *Mutraghata* in which the amount of urine is less and other,
- 2) *Prameha* in which the quantity of urine is increased.

Chronic Kidney Disease comes under the category of *Mutraghata*. Though the quantity of urine is not reduced in earlier stages of CKD, later stages surely show reduction in quantity of urine that is produced.

Ayurvedic texts have described two ways of knowing a disease, one is the examination of a patient which can also be called clinical examination<sup>[7]</sup> and second is knowledge of the disease itself.

To understand a disease or to know a disease, Ayurvedic texts have described five means viz. *Nidan* (~causes, aetiology), *Purvarroopa* (~Predisposing factors), *Lakshan* (~Symptoms), *Upashaya - Anupashaya* (~Relieving and aggravating factors) and *Samprapti* (~Pathogenesis)<sup>[8]</sup>. This is referred to as ***Nidaan Panchaka*** meaning five - pronged approach to disease. This is the methodology described by Ayurved to make a diagnosis of any disease. Only then can we get a complete idea about any disease.

Ayurveda believes that knowing the disease and examining the patient suffering from the disease are two different things, both equip you with the necessary knowledge to treat a disease particularly one like CKD. Here we are talking about knowing a disease that is not elaborately described in the Ayurvedic classical texts. The aim of this study is to see if we can establish the Ayurvedic diagnosis of chronic kidney disease in the frame of *Nidaan Panchaka*, which would be a technically correct way of establishing an Ayurvedic Diagnosis of any disease.

While treating patients with diseases/conditions that are not described in Ayurvedic texts, a general trend is to compare only the symptoms of that disease with similar set of symptoms of any disease or condition described in the Ayurvedic texts. Unfortunately, it is only one aspect to know the disease and is often incomplete and at times can be misleading. As per the guidance of Ayurvedic classics we need to find similarity for all five aspects of a disease, only then can we get a complete perspective with which we will be able to treat the patients suffering from it. This is particularly true regarding complicated diseases like diseases of organs. An effort is made here to compile and compare the references and to find similarities in all five ways of knowing CKD i. e., to establish an Ayurvedic diagnosis of CKD using *Nidaanpanchaka of CKD* in Ayurvedic texts.

#### Pathophysiology of Chronic Kidney disease according to Ayurveda

If we must name one way of comparing a disease described in Ayurveda with the disease described in Modern medicine or vice versa, it is the **Samprapti (~pathogenesis of that disease)**. Other parts of *Nidan Panchaka like Poorvarupa (~Predisposing Symptoms) and Lakshana (~Symptoms)* are dependent on Pathogenesis where *Hetu (~cause)* is the one which starts the process of disease; hence it is also connected with pathogenesis. *Upashaya –anupashaya (~relieving and aggravating factors)* also confirm the pathogenesis. Hence **Samprapti** is central to the *Nidan Panchaka* of any disease. **If we find similarity in pathogenesis of two diseases**, we can safely assume that they are one because ultimately **it is the process by which a disease is created matters**. It is the pathogenesis that creates symptoms, the variety and severity of symptoms depends upon various other factors, but the pathogenesis by and large remains the same. Therapeutically knowing the **Samprapti** is essential as the goal of treatment is defined as *Samprapti Vighatanamevachikitsa (~to break the pathogenesis is the real goal of treatment)*.

Hence it is important to study the pathogenesis of CKD and find similar pathogenesis described in Ayurvedic texts to understand pathology of CKD according to Ayurveda.

Damage to renal parenchyma is the central event in the pathogenesis of chronic kidney disease. It can occur due to various causes. It can happen because of external injury as well as due to internal factors. The damage thus caused is known as medical renal disease. This pathology is described in a similar way in the Ayurvedic texts. It is called *Abhigata (~damage)*, kidney is a vital organ called as *Basti Marma*, one of the three *Maha Marmasi*. e., major vital organs hence damage to kidneys can be interpreted as

damage to *Basti Marma*. It can happen because of external injury as well as due to internal factors like vitiated *doshas* described by Ayurvedic texts and. In other words, damage to renal tissue can be interpreted as *Marmabhighata*. Damage to Kidney is a major risk factor for many serious diseases and death. The same view is echoed in the Ayurvedic texts regarding *Marmabhighata*.

In the description of *Basti Marma*, *Acharya Charaka* says that:

If any one of these three main organs (*Maha Marma*) are destroyed, death occurs immediately and damage to any of these results in very serious diseases. Hence, they should be carefully protected from external damage as well as that from *Vatadi Doshas* (Internal Damage)<sup>[9]</sup>.

Based on this, the main event in the pathogenesis of CKD can be interpreted as resulting from internal injury to the vital organ, which is called *Nija Basti - Marmabhighata – Marma* is vital organ, *Aghata* means damage, *Marmaghata* is damage to vital organ. The *Marmaghata* is specified as *Nija* i. e., done by *Vataadi Doshas* (internal).

**Marma** is another anatomical feature described exclusively by Ayurvedic texts which means vital points in the body. The precision in description of these *Marmas* is such that they have described minute details of these *Marmasi*. e., their number (107), exact location, measurement, and composition (*mamsa, sira, asthi, sandhi* etc.). These *Marmas* are so vital that damage to it can be fatal and even slight damage to these can lead to serious diseases.

*Basti Marma* is one of the three most important *Marma*, due to its importance it is referred as *Maha Marma*. This description of three *Maha Marmas* correlates with the description of *Shiro* (Brain) *Hriday* (Heart) and *Basti* (Kidney) and we all know how important these organs are for the continuation of life.

However, this correlation is not merely for theoretical purpose, the fact that Kidney can be related to *Basti Marma* opens completely new areas for diagnosis, prognosis, and treatment options for diseases of Kidney. It also gives a clear understanding of the kidneys in Ayurveda and helps to formulate the line of treatment of such diseases.

*Marma*, specifically the three ***Maha Marmas are the seat of Prana, the life force***<sup>[10]</sup> and since *Basti - Marma* is one of the three major *Marmas* in the body. It is obvious that existence of life is grossly dependant on *Basti Marma*. e., Kidney.

It says that the *Pranas* are located in these three *Maha Marmas*. Hence one should always try to protect them. The protection plan for *Maha Marmas* is described as having three aspects, one is prevention of damage (external injury and internal damage), second is following the recommended lifestyle (Diet, *Dinacharya* and *Rutucharya* etc.) and third is attending the complaints of these *Marmas* immediately.

It also means that we must think of *Prana* as a factor in the treatment of diseases of Kidney.

*Prana* is directly connected to *Oja* Since it is related to life, it is also related to other factors on which life is dependant like *Oja*. It is said in the references that if *oja* is damaged the life is at threat [11] and it is also evident from this reference that ***oja and Prana are in conjunction with each other*** which means wherever *Prana* is present *Oja* is also present and vice versa.

The other reference of Ashtanga Hriday also echoes the same concept.

It says that *Oja* is essence of all seven tissues, it maintains the whole body though it is situated in the heart. It is unctuous and cool and is yellow in colour with a reddish tinge. If it is damaged or destroyed, then we are also destroyed, if it is carefully protected, we are protected. It regenerates various factors of our body [12].

*Oja* is connected to the blood vessels that are connected to Marmas [10].

Whenever there is damage to any structure in the body it is the *oja* that gets affected.

*Abhighata* or injury is described as a cause of *Ojakshayai*. e., reduction in the quantity and quality of *Oja* [13].

*Marmabhighata* (injury to Marma) is more severe hence it causes more intense *Ojakshaya* hence in patients of CKD (later stages) we usually observe that such patients show signs of *Ojakshaya* [14]. Like feeling extremely weak, fragile, depressed, dry skin, low immunity, frequently getting sick etc.

Hence it can be inferred that *Oja* as a factor also needs to be considered in the pathogenesis of CKD.

Thus, we have established from these references how the effect of damage to *bastimarma* i. e., Kidneys results in reduction in *Oja* causing threat to *Prana* which means threat to life and thus the main event i. e., damage of the kidney tissue in the pathogenesis of CKD according to Ayurveda stands decoded.

As described earlier *Samprapti* or pathogenesis is central to any disease hence it needs to be seen that is there any resemblance of pathogenesis of CKD with any disease described in Ayurvedic texts? Analysis of description of all diseases described in Ayurvedic texts revealed that *Udara* is one such disease which has similar pathogenesis with CKD. The pathogenesis or *Samprapti* of *Udara* is described as follows.

It says that vitiated *doshas* that are accumulated in the *srotasa* (*swedavaha* and *ambuvaha*. e., sweat and fluid channels) create obstruction in these channels and create *Udara* by vitiating *Prana*, *Agni* and *Apana* [15]. The obstruction part of the pathogenesis described in *Udara* finds resemblance in pathogenesis of CKD. The damage to the renal parenchyma leading to loss of cortico - medullary differentiation resulting in fibrosis and causing obstruction in the glomerular filtration. which gives rise to nephrogenic ascites in patients of End Stage Renal Disease (ESRD). This

as earlier mentioned, can be interpreted as *basti* – *marmabhighata* due to *nijai*. e., internal /systemic causes, leading to *Udara*.

Role of *Samana Vayu* is also evident in the pathogenesis of *Udara* in the above - mentioned reference [15]. **It is important to note that the affected srotasas are same as the area of operation of *Samana* *vayu* as described by *Charaka Samhita* [16].**

The fact that *Samana Vayu* is instrumental in separation of urine from food at the second level and that the pathogenesis of *Udara* (Ascites) **also occurs in the area of operation of *Samana* *vayu*** clearly highlights the role of *Samana Vayu* in the pathogenesis of *Udara*. The fact that the process of formation of urine is affected by the obstruction in the area of operation of *Samana* *vayu* establishes the connection of *Udara* ascites in patients of CKD. Since *Samana Vayu* is related to digestion, this pathogenesis explains the symptoms of anorexia found in patients of *Udara* as well as CKD.

The *Samprapti* (pathogenesis) of *Udara* clearly mentions the vitiation of *Prana* as an important event in the pathogenesis. As previously mentioned, damage to *Marma* results in threat to *prana* & *Oja*. *Marma* specifically the three main marmas are the seat of *Prana* hence it is clear that the pathogenesis of *Udara* occurs at *Basti Marma* as *Bastimarma* (i. e., Kidney) is the *Marma* connected to the fluids in the body i. e., *Ambuvahasrotas*, a fact mentioned by *Charak Samhita*.

*Samana* *vayuis* connected to *Agni* [16], it is assigned the job of separation of Urine [17], it is connected to *ambuvahasrotas* i. e., fluid channels in the body the end point of which is Kidneys [18]. If all this is taken into consideration as per the above - mentioned references, it will also mean that damage to Kidneys can cause vitiation of *Samana Vayu*. In other words, we can say that damage to *Samana Vayu* can trigger the pathogenesis of *Udara*. This is inferred based on *Uhya Tantrayukti* by high lighting the between the line meanings in these references, in other words connecting the missing dots in the logical link.

If *Samana* *vayuis* affected, it will affect the *Agni* also. Vitiation of *Agni* is the main event in *Udara* [19]. Type of vitiation of *Agni* herein *Udara* needs to be pondered upon as in *Samprapti* how the *doshas* are vitiated is equally important as it is peculiar to every disease, and it differs even in the same disease in each individual. Hence to know the disease well, it is important to consider in what way has the vitiation of *doshas* has occurred (*yathadushtenadoshena*) and where the vitiated *doshas* travel (*yatha cha anu visarpta*) leading to vitiation of tissues (*dhatu*) and how the symptoms develop leading to cascade of events *nirvrttiramayasyau* in the disease process [20].

This is particularly important when we are studying the diseases like CKD in Ayurvedic perspective. Here, while we are observing the resemblance of pathogenesis of CKD with *Samprapti* of *Udara* the type of vitiation of *doshas* is the factor that becomes the deciding factor which *particularly* clarifies the correctness of this interpretation.

*Charak Samhita* has described various ways in which *Agni* is vitiated<sup>[21]</sup> and it emphasizes that the course of treatment changes in different types of vitiation of *Agni*, hence it is important to understand the way in which *Agni* is vitiated for knowing the disease as well as for treating it.

In *Udara*, *Agni* is vitiated by excessive vitiation of *doshas* as is specified by *Doshvrudhya tumandegnanau*. This is reconfirmed in the description of *samprapti of Udara*<sup>[22]</sup>.

Excessive vitiation of *Doshas* leads to *Marmabhighata of Bastimarma* (damage to kidneys) causing *Prana and Oja* vitiation along with vitiation of *Samana Vayu and Agni*. Damage to renal parenchyma which also is a seat of *maladhara kala* i. e., a membrane where glomerular filtration occurs leads to disruption in the process of glomerular filtration. This further causes accumulation of metabolic waste - products i. e., *malasanchaya* giving rise to formation of *Ama* that leads to further vitiation of *Agni*. Damage to *Bastimarma* leads to destruction and hence obstruction at the level of glomeruli as is explained by *Rudhwaswedambuvahanidoshahsrotaaumsisanhitaha* in the pathogenesis of *Udara*.

The following reference of *Charak Samhita* explains the area of operation of another important type of *Vayu* i. e., *Apana Vayu*. Basically, seated in the *Pakwashaya or Apana area*, it controls the functions of Genitals, Kidney, bladder, umbilicus and related plexuses, anus, and uterus in case of females. It is basically assigned with the responsibility of holding and timely evacuation of faecal matter, urine, semen and sperms, menstruation, foetus, and related functions<sup>[23]</sup>. The area of operation of *Samana, Vyan and Apana Vayu (s)* intermingle with each other as all *vayu (s)* work in tandem with each other. Overall excretion of metabolic wastes gets affected in *Udara*, hence *Apana* along with *prana* and *Agni* are mentioned as a vitiated factor in pathogenesis of *Udara*.

Description of *Udara* in *Charaka Samhita* suggests that it is not a single disease but a group of diseases (*~rogasanghahaprutagvidhaha*) because description of its types has covered ascites due to all causes like cardiac, hepatic, tubercular, renal etc. including those due to perforation and obstruction (*~Chidrodarand badhagudodara*). It is a condition where eventually there is development of ascites (including cascade of events in the disease process prior to development of ascites) and the treatment of *Udara* is the treatment of this condition depending upon the type of *Udara*.

In CKD the symptoms are very typical to *Udara*, particularly *Vatodara*.

After considering the similarity in *Samprapti* or pathogenesis, the central part of *Nidaan Panchak*, we will ponder upon the other four aspects like etiology, pre-disposing symptoms and symptoms and relieving aggravating factors.

Assessing the *Poorvarupa* i. e., predisposing factors of any disease is one way of knowing the disease.

*Poorva rupais* defined as the condition in which the *doshas* have not yet stabilized and the symptoms of that disease are not yet fully developed and felt mildly<sup>[24]</sup>.

In Ayurvedic classical texts there are a set of symptoms described for every disease which predicts that disease even before the disease process is complete. The goal is to detect the disease at an early stage and start the treatment at this stage when the pathogenesis is weak and reversible. Initially the symptoms are less and with low intensity because the *doshas* are yet to decide a fixed seat for pathogenesis.

The role of *Poorvarupa* is much bigger than early detection of disease, as it tells us the exact location of the pathogenesis of that disease, which is called as *sthana samshraya* which means it is the starting point of the disease process<sup>[25]</sup>, this information can be used to target the treatment at that specific location and gain considerable advantage by preventing the progression of disease.

This is so important in the case of patients of CKD. This reference says that a physician who knows the *sthana samshrayais* a successful physician<sup>[26]</sup>.

If these symptoms go unattended, they are converted into signs and symptoms of a properly developed disease<sup>[27]</sup>. Hence *Poorvarupa and roopa* of the *Nidan Panchaka* of a disease are considered together. The symptoms of *Poorvarupa of Udara* are also visible in patients of CKD, and later continue as symptoms.

It is observed that the description of symptoms of patients of ESRD are comparable to symptoms of *Udara Poorva roopa*<sup>[28]</sup>. In fact, if we take a closer look at these predisposing symptoms of *Udara*, one might get a feeling that these symptoms represent a journey of a patient of CKD who is slowly progressing from being asymptomatic to ESRD.

*Kshunnasha* means loss of appetite, detailed history taking of patients of CKD reveals that they frequently complain of unexplained loss of appetite for a longer time even before they are detected as patients of CKD.

*Swadu, atisnigdha, gurvannampachyatechirat* which means sweets, fried, oily and heavy to digest food substances take lot of time to digest, such patients complain that after an episode of eating food at parties or restaurants they don't feel like having another meal and feel like having indigestion for a longer duration.

*Bhuktamvidhaiyatesarvamjeernaajjeernamnavetti cha* means these patients complain of hyperacidity and are not able to make out if the previously taken meals are digested or not, as the disease progresses the indigestion becomes prominent patient isn't willing to eat and when he eats, he/she complains of hyperacidity frequently.

*SahatenatisauhityamishatShofashchapadayoho* means such patients are not able to eat even little more than their regular quantity, if they happen to eat more it makes them very uncomfortable, patients start to show pedal edema, at this stage patient and the physician may start to think to investigate him/her further.

*Shasvadbalkshayaolpepivyayameshwasamruchati* means patients complain of severe debility, breathlessness on even very little exertion, at this stage disease has started to progress to stage IV or V of CKD. Further symptoms like constipation, belching, distention of abdomen, visible are seen in advanced stages. Looking at these symptoms it can be said that this would undoubtedly fit as though these are the description of patients of CKD progressing to ESRD.

Table no.1 Comparison of symptoms of End Stage Renal Disease (ESRD) & Udara Purva roopa (predisposing symptoms of ascites described by Ayurvedic texts).9 out of 11 symptoms are common in udarapurvarupa and ESRD. Hence based on Purvarroopa, CKD is comparable to Udara.

The comparison of description of Pathogenesis of CKD described in modern medicine & its interpretation according to Ayurveda reveals some interesting facts.

Table no.2 - Comparison of Ayurvedic & Allopathic Description of Pathogenesis of CKD and its relation to Udara. This table shows the similarity of concepts in Ayurveda and Allopathy except for the language.

If we look at the events in the pathogenesis of CKD, the other causative factor is accumulation of waste products, which is also mentioned as a cause of *Udara*. Hence causative factor i. e., *Nidan* of *Nidan Panchaka* for CKD and *Udara* is also found to be equivalent.

*Ama* (~Toxin generated due to indigestion) is a pathological condition described by Ayurvedic texts which is generated in the body due to presence of indigested metabolic products/toxins, it is also described as a cause of ascites<sup>(29)</sup>. *Amavastha* (~Condition of Toxicity generated due to partly indigested food) is a condition generated in ESRD due to *malasanchaya*<sup>[30]</sup>.

*Malasanchaya* means accumulation of wastes in the body this is also a cause of *Udara*<sup>[29]</sup>. *Amavastha* explains the reason for indigestion, anorexia, nausea and vomiting in ESRD. Inability of the kidneys to eliminate the toxins through urine amounts to accumulation of harmful substances like creatinine and urea which can be interpreted as wastes or excretory products. Their accumulation gives rise to *Ama* formation according to *madhavnidan*. In usual course it is the vitiation of *Agni* (~digestive fire) that is responsible for *Ama*, but here it is the formation of *Ama* due to *malasanchaya* or *malavrudhi* that leads to disruption of *Agni*.

Hence *Udara* is the primary diagnosis of CKD in Ayurveda because of below mentioned reasons:

- 1) The symptoms of ESRD and *Udara* purvarupa are significantly similar.
- 2) Causative factor in the pathogenesis of CKD is also a cause described in *Udara*.
- 3) There is considerable similarity in pathogenesis of CKD & *Udara*.
- 4) The patients of CKD are symptom less initially and land up in some type of *Udara* in terminal stages, this fact is acknowledged by number of researchers as nephrogenic ascites. Review of Nephrogenic ascites suggests that

this condition has been observed and studied by numerous scholars world over<sup>[34]</sup>.

Thus, it can be said that study of CKD with respect to five means of diagnosis (*Nidan i. e., causative factors, poorva roopa and roopa i. e., pre - disposing symptoms and signs and symptoms and samprapti i. e., pathogenesis*) takes us to the interpretation that CKD can be interpreted as *Nija Basti Marmabhighata leading to Udara*.

Here *Upashaya* or the relieving factors are yet to be considered as it comes into picture when the other factors fail to clearly identify the diagnosis<sup>[31]</sup> also because it pertains to treatment as suggested in its definition चौषधाहारविहारणामुपयोगःसुखानुबन्धः anything out of medicines, daily activities and food that offers relief is called as *Upashaya*<sup>[32]</sup>.

### 3. Developing Line of Treatment

Based on these references and their logical interpretations it needs to be seen if an Ayurvedic line of treatment can be developed based on Ayurvedic interpretation of CKD. It is also essential to see whether the line of treatment yields results in such patients and whether it is successful in arresting the progression of patients of CKD or reversing the pathology in such patients as ultimately any interpretation of the disease can be considered valid only if it successfully is able to make a difference in the lives of patients and in the treatment of his/her condition. This is echoed by the following reference of *Charak Samhita*.

The correctness of any interpretation is evident from the success achieved after its implementation and successful implementation defines a successful physician<sup>[33]</sup>.

Hence it is essential to observe the utility of Ayurvedic interpretation of CKD in treating patients suffering from it. It is a subject of separate study.

Summary: The message emanating out of the below - mentioned references and the inferences drawn based on these references using Tantrayukti, are summarised below for quick understanding of the reader.

All these references show that.

- 1) Damage to renal parenchyma due to internal causes (medical renal disease) is the main event in the pathogenesis of chronic kidney disease, which is similar to the description of *Nija Basti Marmabhighata* described in *Ayurveda*.
- 2) Damage to renal parenchyma i. e., *Basti Marmabhighata* which also is a seat of *maladhara* leads to disruption in the process of glomerular filtration due to fibrosis of the tissue leading to accumulation of metabolic waste - products i. e., *malasanchaya* giving rise to formation of *Ama* that leads to further vitiation of *Agni*.
- 3) It can be interpreted as *Abhighata* i. e., damage to the *Marma* hence *Marmabhighata*. It is of two types, external injury which is called as *Bahya Abhighata* or internal damage due to systemic causes which is called as *Nija Abhighata*, hence internal injury to the renal

tissue due to systemic causes can be called as *Nija Basti - marmabhighata*.

- 4) *Maha Marma* are the seat of *Prana*, the life force, and also of *Oja*, the essence of all tissues as *Oja* and *Prana* are in conjunction with each other.
- 5) Damage to *Marma* causes serious threat to life and is a cause of many grave diseases. It is also a cause of *Ojakshaya*.
- 6) *Samana Vayu* is vitiated by damage to *Basti Marma* i. e., Kidneys and causes vitiation of *Agni*.
- 7) Accumulation of metabolic waste products due to damage to the renal tissue can be interpreted as *Malasanchaya*, where *Mala* means metabolic waste products and *Sanchay* means accumulation. It is a cause of formation of *Ama* which further vitiates *Agni*.
- 8) Excessive accumulation of toxins is also described as a cause of *Udara* denoted by the term *dosha atimatraupachyat*, *ati* means excess, *matra* means quantity and *upachayat* means accumulation.
- 9) Type of vitiation in such case is termed as 'excessive' denoted by term *dosha ativrudhya*
- 10) Excessive vitiation of *Agni* is the root cause of many diseases especially *Udara*, according to Ayurvedic texts.
- 11) Area of operation of *Samana Vayu* as described by *Charak Samhita* is same as the affected *Srotas* described in the *Samprapti* of *Udara*.
- 12) Excessive vitiation of *Doshas* leads to *Marmabhighata of Basti marma* (damage to kidneys) causing *Prana and Oja* vitiation along with vitiation of *Samana Vayu and Agni*.
- 13) Since *Samana Vayu* is entrusted with the responsibility of separation of *Sara* (nourishing part) and *Kitta* (metabolic waste products) and in formation of Urine, vitiation of *Samana Vayu* results in impaired glomerular filtration.
- 14) Pathogenesis of CKD has significant resemblance with the Pathogenesis of *Udara* described in Ayurveda.
- 15) There is considerable similarity in symptoms presented in patients of ESRD and *Udara Poorva rupa*.
- 16) Since co - relation with all aspects of *Nidaanpanchaka* of *Udara* and CKD match along with similarity of pathogenesis of Damage to renal parenchyma with *Basti Marmabhighata*.
- 17) It is logical to conclude that Ayurvedic Diagnosis of CKD is *Nija Bast Marmabhighata janya Udara*.

#### 4. Conclusion

The study establishes a significant correlation between Ayurvedic principles and the diagnosis and treatment of Chronic Kidney Diseases CKD. It demonstrates that the Ayurvedic philosophy of Anukta can be effectively applied to diagnose and treat CKD, a condition not explicitly mentioned in Ayurvedic texts. The research also establishes that Kidneys were known to Ayurveda, and their anatomical description and physiology are elaborately mentioned. The study concludes that CKD can be diagnosed as *Nija Basti Marmabhighata leading to Udara, or Nephrogenic Ascites*, based on Ayurvedic principles. This research opens up new avenues for the application of Ayurvedic principles in diagnosing and treating other diseases not explicitly mentioned in Ayurvedic texts.

#### References

- [1] Agnivesha, Charak Samhita of Acharya Charaka, Dridhabalakrit, edited by Vaidya Jadhavji Trikamji Acharya. Siddhi Sthana. Ch.12, Ver 48. Edition: Reprint, 2013, Varanasi: ChaukhambaPrakashan. P 737
- [2] Commentator Chakrapani Dutta of Charak Samhita by Acharya Charaka, Dridhabalakrit, edited by Vaidya Jadhavji Trikamji Acharya – Siddhi sthan –Ch.12 Ver.41 - 45. Edition: Reprint, 2013, Varanasi: ChaukhambaPrakashan. P 737
- [3] Agnivesha, Charak Samhita of Acharya Charaka, Dridhabalakrit, edited by Vaidya Jadhavji Trikamji Acharya. Chikitsa Sthana. Ch.30, Ver 291. Edition: Reprint, 2013, Varanasi: ChaukhambaPrakashan. P 645
- [4] Agnivesha, Charak Samhita of Acharya Charaka Dridhabalakrit, edited by Vaidya Jadhavji Trikamji Acharya. Sutra Sthana. Ch.19, Ver 05. Edition: Reprint, 2013, Varanasi: ChaukhambaPrakashan. P 111
- [5] Vagbhata, Ashtanga Hriday, Annotated by Dr. Anna Moreshwar Kunte and Pt Krushna Shastri Navare, Edited by Pt. Hari Sadashiva Shastri Paradkar – Sutra sthan – Ch.12 – Ver.54, 55. Edition: Reprint, 2012, Varanasi: Chaukhamba Sanskrit Sansthan. P 203
- [6] Vagbhata, Ashtanga Hriday, Annotated by Dr. Anna Moreshwar Kunte and Pt Krushna Shastri Navare, Edited by Pt. Hari Sadashiva Shastri Paradkar – Sutra sthan – Ch.12 – Ver.67, 68. Edition: Reprint, 2012, Varanasi: Chaukhamba Sanskrit Sansthan. P 207
- [7] Commentator Arun Dutta of Ashtanga Hriday Vagbhata, annotated by Dr. Anna Moreshwar Kunte and Pt Krushna Shastri Navare, Edited by Pt. Hari Sadashiva Shastri Paradkar, Sutra Sthan, Ch.01 Ver.22. Edition: Reprint, 2012, Varanasi: Chaukhamba Sanskrit Sansthan. P 14.
- [8] Commentator Arun Dutta of Ashtanga Hriday Vagbhata, annotated by Dr. Anna Moreshwar Kunte and Pt Krushna Shastri Navare, Edited by Pt. Hari Sadashiva Shastri Paradkar, Sutra Sthan, Ch.01 Ver.22. Edition: Reprint, 2012, Varanasi: Chaukhamba Sanskrit Sansthan. P 14.
- [9] Agnivesha, Charak Samhita of Acharya Charaka, Dridhabalakrit, edited by Vaidya Jadhavji Trikamji Acharya. Siddhi Sthan Ch.9 Ver.05. Edition: Reprint, 2013, Varanasi: ChaukhambaPrakashan. P 716.
- [10] Agnivesha, Charak Samhita of Acharya Charaka, Dridhabalakrit, edited by Vaidya Jadhavji Trikamji Acharya. Siddhi Sthan Ch.9 Ver.10. Edition: Reprint, 2013, Varanasi: ChaukhambaPrakashan. P 718.
- [11] Agnivesha, Charak Samhita of Acharya Charaka, Dridhabalakrit, edited by Vaidya Jadhavji Trikamji Acharya. Sutra Sthan – Ch.30 Ver.09 - 12. Edition: Reprint, 2013, Varanasi: ChaukhambaPrakashan. P 185.
- [12] Vagbhata, Ashtanga Hriday, annotated by Dr. Anna Moreshwar Kunte and Pt Krushna Shastri Navare, Edited by Pt. Hari Sadashiva Shastri Paradkar, Sutra Sthan Ch.11 Ver.37, 38. Edition: Reprint, 2012, Varanasi: Chaukhamba Sanskrit Sansthan. P 189.

- [13] Sushrut Samhita of Sushruta, Edited by Vaidya JadavjiTrikamji Acharya and Narayan Ram Acharya, Kavyatirtha. Sutra Sthan Ch.15 Ver.23. Edition: Reprint, 2012, Varanasi: ChaukhambaPrakashan. P 72.
- [14] Agnivesha, Charak Samhita of Acharya Charaka, Dridhabalakrit, edited by Vaidya JadhavjiTrikamji Acharya. Sutra Sthan, Ch.17 Ver.73. Edition: Reprint, 2013, Varanasi: ChaukhambaPrakashan. P 103.
- [15] Agnivesha, Charak Samhita of Acharya Charaka, Dridhabalakrit, edited by Vaidya JadhavjiTrikamji Acharya. Chikitsa sthana, Ch.13 Ver.20. Edition: Reprint, 2013, Varanasi: ChaukhambaPrakashan. P 492.
- [16] Agnivesha, Charak Samhita of Acharya Charaka, Dridhabalakrit, edited by Vaidya JadhavjiTrikamji Acharya. Chikitsa sthana Ch.28 Ver.08. Edition: Reprint, 2013, Varanasi: ChaukhambaPrakashan. P 616.
- [17] Commentator Dalhana of Sushrut Samhita of Sushruta, Edited by Vaidya JadavjiTrikamji Acharya and Narayan Ram Acharya, Kavyatirtha. Sutra Sthan – Ch.15 Ver.05. Edition: Reprint, 2012, Varanasi: ChaukhambaPrakashan. P 67.
- [18] Agnivesha, Charak Samhita of Acharya Charaka, Dridhabalakrit, edited by Vaidya JadhavjiTrikamji Acharya. Siddhi sthana Ch.9 Ver.04. Edition: Reprint, 2013, Varanasi: ChaukhambaPrakashan. P 716
- [19] Agnivesha, Charak Samhita of Acharya Charaka, Dridhabalakrit, edited by Vaidya JadhavjiTrikamji Acharya. Chikitsa sthana Ch.13 Ver.09. Edition: Reprint, 2013, Varanasi: ChaukhambaPrakashan. P 491.
- [20] Vagbhata, Ashtanga Hriday, annotated by Dr. Anna Moreshwar Kunte and Pt Krushna Shastri Navare, Edited by Pt. Hari Sadashiva Shastri Paradkar, Nidan sthana, Ch.01 Ver.8. Edition: Reprint, 2012, Varanasi: Chaukhamba Sanskrit Sansthan. P 443.
- [21] Agnivesha, Charak Samhita of Acharya Charaka, Dridhabalakrit, edited by Vaidya JadhavjiTrikamji Acharya. Chikitsa sthana Ch.15 Ver.206 - 208. Edition: Reprint, 2013, Varanasi: ChaukhambaPrakashan. P 524.
- [22] Agnivesha, Charak Samhita of Acharya Charaka, Dridhabalakrit, edited by Vaidya JadhavjiTrikamji Acharya. Chikitsa sthana Ch.13 Ver.09 - 11. Edition: Reprint, 2013, Varanasi: ChaukhambaPrakashan. P 491.
- [23] Agnivesha, Charak Samhita of Acharya Charaka, Dridhabalakrit, edited by Vaidya JadhavjiTrikamji Acharya. Chikitsa sthana Ch.28 Ver.08. Edition: Reprint, 2013, Varanasi: ChaukhambaPrakashan. P 616.
- [24] Vagbhata, Ashtanga Hriday, annotated by Dr. Anna Moreshwar Kunte and Pt Krushna Shastri Navare, Edited by Pt. Hari Sadashiva Shastri Paradkar, Nidan sthana – Ch.01 Ver.03 - 04. Edition: Reprint, 2013, Varanasi: ChaukhambaPrakashan. P 441.
- [25] Commentator Chakrapani Dutta of Charak Samhita by Acharya Charaka, Dridhabalakrit, edited by Vaidya JadhavjiTrikamji Acharya. Nidana sthana Ch.01, Ver.08  
स्थानसंश्रयिणाः कृद्धाभाविष्याधिप्रबोधकंदोषाः कुर्वन्तियल्लिङ्गं  
पूर्वरूपंतदुच्यते। Edition: Reprint, 2012, Varanasi: ChaukhambaPrakashan. P 194.
- [26] Sushrut Samhita of Sushruta, Edited by Vaidya JadavjiTrikamji Acharya and Narayan Ram Acharya, Kavyatirtha. Sutra sthana Ch.21 Ver.36. Edition: Reprint, 2012, Varanasi: ChaukhambaPrakashan. P 106.
- [27] Vagbhata, Ashtanga Hriday, annotated by Dr. Anna Moreshwar Kunte and Pt Krushna Shastri Navare, Edited by Pt. Hari Sadashiva Shastri Paradkar, Nidan sthana – Ch.01 Ver.07. Edition: Reprint, 2013, Varanasi: ChaukhambaPrakashan. P 441.
- [28] Agnivesha, Charak Samhita of Acharya Charaka, Dridhabalakrit, edited by Vaidya JadhavjiTrikamji Acharya. Chikitsa sthana, Ch.13 Ver.16 - 19. Edition: Reprint, 2013, Varanasi: ChaukhambaPrakashan. P 492.
- [29] Agnivesha, Charak Samhita of Acharya Charaka, Dridhabalakrit, edited by Vaidya JadhavjiTrikamji Acharya. Chikitsa sthana, Ch.13 Ver.14 - 15. Edition: Reprint, 2013, Varanasi: ChaukhambaPrakashan. P 491.
- [30] Commentator Shri Vijay Rakshit and Shrikantha Datta's Madhukosha, Madhav Nidan of Madhavkar, Ch.25, Ver.01 - 05. <https://niimh.nic.in/ebooks/madhavanidana>
- [31] Charak Samhita – Viman sthan – Chapter No.13 – Verse No.13
- [32] Commentator Chakrapani Dutta of Agnivesha, Charak Samhita of Acharya Charaka, Dridhabalakrit, edited by Vaidya JadhavjiTrikamji Acharya. Nidan sthana – Ch.01 Ver.10. Edition: Reprint, 2013, Varanasi: ChaukhambaPrakashan. P 195.
- [33] Agnivesha, Charak Samhita of Acharya Charaka, Dridhabalakrit, edited by Vaidya JadhavjiTrikamji Acharya. Sutra Sthan Ch.01 Ver.135. Edition: Reprint, 2013, Varanasi: ChaukhambaPrakashan. P 23.
- [34] Nayak - Rao S. Nephrogenic ascites - Still an intractable problem? Saudi J Kidney Dis Transpl 2015; 26: 773 - 7; 2. Largest case series of 138 cases reported by Glück Z, Nolph KD. Ascites associated with end - stage renal disease. Am J Kidney Dis 1987; 10: 9 - 18.). It is studied under the heading of Intractable ascites in end stage renal disease or Idiopathic ascites in patients of chronic dialysis.