

## REVIEW ARTICLE

# An Ayurvedic Comprehensive Review on Chronic Renal Failure

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### ABSTRACT

Chronic renal failure (CRF) refers to an irreversible deterioration in renal function, which develops over a period of years. According to Ayurveda, CRF is a disease of Mutravaha Srotas. Though all the three Doshas as well as all the Dushyas are involved in the disease, Kapha is responsible in blocking micro vessels and developing microangiopathy. Vata is responsible for degeneration of the structure of the kidney. CRF is Santarpanjanya Vyadhi, which blend of Dushti of Rasavaha Srotas, Annavaha, Udakavaha, Medovaha, Mutravaha Srotas and mainly Kaphaja among Tridoshas. As Nidanpanchaka of CRF is not mentioned in Samhitas, Hetus found from some observational study and references found in Samhitas are taken in to consideration and an effort has done to understand the Nidanpanchaka of CRF.

**KEY WORDS** – CRF, Aam, Vikrutkleda, Srotorodh, Vikrut Mutra, Vayupratiloma.

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### INTRODUCTION

India is facing a silent epidemic of chronic renal failure (CRF), a facet of the health transition associated with industrialization, partly fueled by increase in fast lifestyle. Chronic renal failure (CRF) refers to an irreversible deterioration in renal function, which develops over a period of years. CRF is considered when glomerular filtration rate (GFR) falls below 30 ml/min. The conventional approach of management includes dialysis and renal transplantation, which are tedious and unaffordable by Indian population. Therefore, exploration of a safe and alternative therapy is needed, which would prove to be helpful in reducing the requirement of dialysis and in postponing the renal transplantation. Knowledge of Nidanpanchaka of renal failure is essential to avoid its complications. Thus, the Nidanpanchaka of renal failure is selected for study in Ayurveda perspectives [1].

To study the Nidanpanchaka of Renal Failure with Ayurvedic Perspectives

Chronic Renal Failure is Anukta Vyadhi, As Nidanpanchaka of CRF is not mentioned in Samhitas, Hetus found from the various observational study and references found in Samhitas are taken in to consideration and an effort has done to Nidanpanchaka of CRF.

**NIDAN** –According to Acharya Charak the disease is outcome of one or many causative factors. Therefore, the factors which are responsible for Prakrut Mutra Utapatti are also responsible for Vikruti in CRF. These factors are taken in to consideration as 4 main Hetus of CRF.

For proper understanding of CRF Nidan has been classified as follows.

1. Aam Nirmitikar Hetu

2. Kleda Vriddhikar Hetu
3. Vayu Pratilomakar Hetu
4. Teekshana Aushadhi Hetu.

These Hetus are again subdivided in to Aaharaja and Viharaj Hetu.

**AAM NIRMITIKAR HETU [2]:** Aam is responsible for many diseases. There are many causative factors which are responsible for formation Aam like Adhyashan, Vihsamashan, Anashan, Samashan, Ratri Jagaran, Diwawap etc. Consumption of these causative factors for longer duration results in the formation of Saam Aahara rasa. This Saam-Rasa circulates through all over the body and causes many diseases. Dusti of Srotas occurs at this stage. Acharya Sushruta has mentioned that whenever this Aam flows up to Mutravaha Srotas, it hampers normal functioning of Mutravaha Srotas.

**KLEDA VRIDDHIKAR HETU [3, 4]:** - Kleda is one of the normal constituents needed for the body, helping in digestion, existing in all dhatus and softening them in normal amount. Whenever the normal liquid portion increases in dhatus as a result of metabolism or in some pathological condition it is to be eliminated through mutra. When DraVata exceeds particular limit, it attends Malarupata. If it is not properly converted in to mutra and eliminated from the body then it results in Malasanchaya Awastha in all dhatus.

The causative factors for excess Kleda are Lavan Rasa, Amla Rasa, Abhishyandi, Atyambupan, Viruddha Aahara.

Lavana Rasa has dominance of Teja and Aap Mahabhutas. This is a most Ushna among the all Rasas. It also has action like Snehan and Swedan. Considering this point Lavana acts as Swedan and liquefies the accumulated Kleda, Kapha and Rakta. Due to liquefaction, there is increase in the Dravata and this liquefied Kleda eliminated as Mutra, results in the Bahumutrata. Such type of overload on the whole urinary system reflects in the Sthanvaigunya.

Amla Rasa has the dominance of Pruthvi and Teja Mahabhutas. When there is excess consumption of that Rasa, it will result in the increase in the Ushna Guna. It leads to excess of Kledan. Acharya Vagbhata has also stated Shukta as the Kleada-Karakand Raktapiitakara. It will produce the mutra Vikruti due to increase in the Drava Guna.

Another Hetu in the formation of Kleda is Abhishyandi [5-8]. Abhi means from all sides and shy and means to oz. This is a stage in which accumulation of moisture takes place in moderate quantity. Abhishyandi Ahara is responsible for excessive Kleda in Dosha, Dhatu, Mala and Srotas. It thereby produces favorable conditions in the body for various diseases. Mutra is a watery constituent of Kitta. During the process of pathogenesis, excess of Kleda is imparted to Mutra and it in turn allows the vitiated Doshas to be lodged in Mutrashaya. Since it gains access to Mutrashaya, it gives rise various pathological conditions of CRF. Whenever the consumption of these Hetus for longer duration is done, it will result in the changes in the consistency of Pravahi Kleda. As such, it will become more Picchila and Sthiragunatamak, which leads to obstruction. This type of obstruction which has become Sthiragunatamak leads to Asadhyata.

Atyambupan is another causative factor of Aam as well as Vikrut Kleda. Ambu has Jalamahabhuta predominance. Kleda is Aap Mahabhut Pradhan. Atyambupan affects formation of Kleda. Excess Kleda if not properly converted in to mutra and eliminated through body, it results in the Sanchay Awastha like Shotha due to Vimarga Gaman. The symptoms like Ubhayaadshoth and Mukhashotha is seen in the patients of CRF due to dusti of udaka and mutravaha srotas.

Acharya Sushruta has mentioned that Viruddha Aahar causes the Utkleshan of doshas. This accumulation of doshas if carried to different organs (Vimarga Gaman), develops Sthan Shunshraya at that site. When this phenomenon occurs at Mutrashaya it supports Kleda stagnation type of Samprapti of CRF.

In the present scenario of corporate field, the Viharaja Hetus like Ratri Jagaran and Diwaswap are mainly responsible for the production of Aam. The vitiation of Vata takes place due to Ratri Jagaran and vitiation of Kapha due to Diwaswap. Consumption of these Hetus for longer duration results in the severe Srotodusti due to Aam and finally in to any major disease.

**PRATILOMA VAYU [9-11]:** Vata is responsible for all small and big movements in the body. Thus Mutravivechana, Abhivahana, and Visarjana depends on the normal functioning of Vata. Being regulator of Agni, Samana Vayu is working at level of Mutravivechana. Vyan a Vayu is responsible for Gati. Functioning of Vyan a Vayu is necessary for the factors which get transferred in to mutra. Apana Vayu is responsible for all excretory functions. The Viharaja Hetus such as Vegvidharan that is suppressing the natural urges like stool, urine, flatulence etc. also vitiates the Vata. Apana Vayu, being seated in pelvic region must be functioning normally for evacuation of urine. Any impairment in its function such as

Pratiloma - Gati, leads to various affliction of Mutravaha Srotas such as Mutraghata, Ashmari, Prameha and CRF.

Yanayan means riding the vehicles. Excessive riding or driving of vehicles, horses etc. lead to fatigue and exertion. It vitiates Vata dosha creating Dushti of Apana Vayu. Furthermore, in the present era of mechanical life style, due to constant stress, strain and having to travel long distances to reach the destinations, everybody has the habit of suppression of natural urge of micturition. Therefore, these conditions lead to vitiation of Vata and further to Mutravaha Srotas Dusti.

**TEEKSHNA AUSHADHI [12]:**- Teekshna means sharp or acute. Hence, the excessive intake of the drugs having sharp potency will definitely lead to Vata and pitta vitiation. The medicines like diuretics, antibiotics, steroids, painkillers etc. are nephrotoxic. If consumed for longer duration and frequently then it reduces the strength of that organ. The medicines like diuretics help in the excretion of urine, but GFR is already reduced in CRF. This will cause overworking of the kidney for filtration. Due to overworking of kidney, again Vata Prokopa. takes place and this vicious cycle continues which finally leads to worsening the condition of CRF.

**TABLE NO: -1 AAHARAJA HETU OF VITIATING RESPECTIVE DOSHAS.**

Factors	Vata Prakopaka Hetu	Pitta Prakopaka Hetu	Kapha Prakopaka Hetu
According to Rasa	Ati Katu ,Tikta and Kashaya	Lavana, and Amla	Ati Madhura, Lavana and Amla
According to Guna	Excessive consumption of Sheeta, Laghu, Ruksha Aahara	Excessive consumption of Ushna and Vidahi Aahara, Viruddha Aahara	Excessive consumption of Guru, Snigdha and Piccha, Abhishyandi Aahara

**TABLE NO: -2 VIHARAJA HETU OF VITIATING RESPECTIVE DOSHAS.**

Vata Prakopaka Viharaja Hetu	Pitta Prakopaka Viharaj Hetu	Kapha Prakopaka Viharaja Hetu
Vegvidharan	Aatapseven	Avyayam
Yanayan		Diwaswap
Ratri Jagaran		
Ativyayama		

**PURVA RUPA:** - Since CRF is Anukta Vyadhi<sup>13</sup> there is no classical Purva Rupas are mentioned in the Samhitas. The Doshas undergo the Dosha Dushya Samurcchana and exhibits typical characteristics which are seen in the Purva Rupas. From this data, the various Purvaroopas are decided such as Asharddha, Aruchi, Tiktasyata, Amlasyta, Angamarda, Amlapitta, Grahani, Adhaman, Aatop, Anga Gaurav. They are elaborated as Rupa.

**RUPAS:** -These symptoms includes Shwasa, Ubhaypadashoth, Mukhashoth, Chardi, Bharkshaya, Hrullas, Anannabhilasha, Daurbalya, Pandu, Asharddha , Aruchi.

Vyakti and Bhed Awastha occur in this stage. Kleda - Adhikya, Aamadhikya have developed the obstruction of Srotasa. When Purva Roopas mentioned above are present for quite longer duration along with Padashoth, Mukhashoth, Bharkshaya Andpersistant Chardi, Hrullas; then physicians should understand maximum probability of CRF. This is the guideline for all physicians to chalk out the treatment principles in line of Deepan, Pachan, Anuloman, at earliest.

Aam and Kleda are mainly responsible for Srotorodha Persistent Chardi and Hrullas are cardinal symptoms of CRF along with raised serum creatinine and urea. The patients who are on dialysis for once a week had shown mild symptoms. Whereas the patients who are taking dialysis for two or three times per week had shown severe symptoms. After dialysis there is substantial reduction in these symptoms. There is also reduction in the Lakshanas of Agnimandya. This indicates that Vikrut Kleda and Aam are filtered which is mixed in the Rakta. The Lakshanas like Chardi and Hrullas are seen when there is increase of Kleda, Kapha, Drava Guna of pitta. After dialysis, these infiltrates in the blood are filtered and there is reduction in the symptoms for some time period. This does not stop the new formation of Kleda. Dialysis will not cure the basic Aam formation at the level of Mutra Utpatti that means at the level of Sara Kitta Vibhajan. Therefore, after dialysis also there is reoccurrence of these symptoms after some time.

In many patients after dialysis dryness of skin is observed. No doubt dialysis reduces the excess Dravata in the blood. Along with that it also reduces the Snigdha Guna all over the body which results in the dryness, Twak Dusti, Vata Prakopa.

According to biomedical science after failure of dialysis there is another line of treatment that is renal transplantation. After the observations of the patients, it has been seen that after transplantation the

patient survive for some years but after that again there is functional and structural damage of that new transplanted organ. This indicates that the kidney has only the function of filtration. Formation of urine starts from Grahani that is Sara Kitta Vibhajan. The renal transplant does not stop the formation of Aam and Vikrut Kleda. Hence after some days again pathogenesis of Srotorodh takes place at new transplanted organ and there is end stage of the renal disorder.

Kleda is inferred through various disorders such as Prameha, Twak Dusti, hypertension. Hypertension is seen in most of the patients. Here hypertension is used in two senses namely as a disease and as a symptom. Hypertension is causative factor as well as symptom of CRF.

**HYPERTENSION AS CAUSATIVE FACTOR:** - When there is Vikruti in the Gati of Vyan a Vayu it results in its Pratilomatva. This Dusti of Vayu in the Rakta results in to hypertension. Another type of Samprapti is explained in the Charaka as Dhanmi Upacahay. According to Acharya Charak Dhamni Upacahay is Khaphaj Nanatmaja Vyadhi. Acharya Charak also included it in the diseases caused due to adverse effect of Viruddha Aahara. Acharya Charak also explained it as Pitaavrutta Vata. Due to all these types of Samprapti, Gati of Vayu is hampered and it results in the structural and functional damage of the kidney.

**HYPERTENSION AS SYMPTOM:** -In CRF, structural and functional loss of kidney results in to hypertension. According to Ayurvedic classics we can say that in this condition hypertension is nothing but the Rakta Gata Kleda. When this Kleda is not eliminated through Mootra and accumulated in the body, it will result in the Malasanchay Awastha. Consequently, Kleda will become Guru, Avasadi, Sthira Gunatmak and will cause hypertension. If this type of Rakta Kleda is filtered through dialysis or through Sodhanadi process, that will also reduce the symptoms of CRF.

**UPASHAY:** - Some observational study reveals that patients taking Ayurvedic treatment along with dialysis showed markedly reduction in serum creatinine and serum urea levels in certain symptoms. This conforms that Ayurvedic treatment like Aampachanadi etc. essential to break the Samprapti or further progression of disease.

**SAMPRAPTI [14]:** - Acharya Dalhana quotes that Vata is the main factor in the pathogenesis of Mutraghata. The initial stage is accumulation of a Dosha due to basic and primary hetus. Mutravegarodha has been mentioned as one of the prime Nidana in almost all the types of Mutraghata. The Apana Vayu being vitiated by indulging in the afore mentioned Nidanas starts accumulating in its own places- the Kati, Basti, Pakwashaya and Medhra . Along with this the bodily Vayu is vitiated by Vatakara ahara and Vihara. In this stage, the individual experiences in the region and occasional discomfort in the act of micturition, which seems to be tolerable and he neglects it. There may be feeling of Adhmana and Atopa in Vata Pradesha along with a very mild discomfort in passage of urine. This vitiation occurs in all the Vata places and leak to hampering of the functioning of both Pitta and Kapha. The vitiated Doshas along with Ama traversing through the Sukshma Siras, Dhamanis get lodged in Basti and forms a base for the complete manifestation of Mutraghata.

Samprapti Hetu Sevan Vitiation of Kapha (Shira, Manda, Guru, Snigdha, Drava) Vitiation of Pitta (Ushan, Teekshna, Drava) Vitiation of Vata (Sukshma, Chala, Ruksha) Agnimandya (Aam + Kleda) Srotorodha Srotodusti Puvarupa Awastha Vrukastha Kaphjanya Vatajanya Upalepan – Dhamani Praticay Vayu Pratilom – Vyan Vayu Srotorodh Structural and functional loss of kidney Prameha Shoth Pandu Udar Amlapitta Htn Guru Upadrava - CRF Vyadhi Sankar – if previous Vyadhi persist Samprapti of CRF.

**TABLE NO: -3 SAMPRAPTI GHATAK OF CRF**

<b>Dosha</b>	Tridoshaja Vyadhi – Mainly Vata (Apana) & Kaphaja Among Tridoshas
<b>Dushya</b>	Rakta And Kleda , Meda
<b>Agni</b>	Jatharagni Mandya
<b>Stotas</b>	Mutravaha, Rasavah , Raktavaha , Annavaha , Udakvaha
<b>Srotodusti</b>	Sanga and Atipravrutti
<b>Udbhavasthan</b>	Pakwashaya
<b>Adhistan</b>	Basti
<b>Vyadhiprakara</b>	Nija
<b>Swabhav</b>	Ashukari
<b>Roganmarga</b>	Madhyam
<b>Sadhya- Sadhyatva</b>	Kastasadhya or Asadhya
<b>Vikrut Gunas</b>	Chala, Sukshma, Ruksha, Drava, Sara, Ushna, Guru, Snigdha, Manda.
<b>Kha Vaigunya</b>	Vrukka.
<b>Vyakti</b>	During the act of Micturition

**Samprapti of CRF occurs in two steps.**

**STEP 1:** - Patients who are over indulged with Guru, Snigdha, Madhura, Lavana, Amla Rasa and Picchila, all Kpaha Prakopaka Hetus, Adhyashan, Vihsmanshan, Viruddha Aahara are prone to Agnimandya since they have dominance of Prithvi and Apa mahabhut. Agnimandya leads to the vitiation of doshas. Vitiation of kapha dosha results in the increase in the Aapya Bhav all over the body and also results in vitiation of attributes like Drava, Snigdha, Guru, Manda, Sthira. Vitiation of Avalambak and Kledak kapha takes place due to Jatharagnimandya. Vitiation of Pitta results in Pachaka Pitta Dusti and vitiation of attributes like Ushna, Drava. Vitiation of Vata results in the Vyan, Saman, and Apana Vayu Dusti which further results in to vitiation of attributes like Chala, Sukhma of Vata.

Agnimandya along with vitiated doshas leads to formation of Aam. Aam is nothing but undigested food due to Jatharagnimandya which is harmful for the body. Due to Jatharagnimandya, Dhatvagnimandya occurs and by these proper nutrients are not formed for dhatus. Vitiation of Doshas, Agnimandya and Dhatvagnimandya leads to formation of Vikrutkleda. There are changes in the attributes of Pravahi Kleda. Kleda becomes more guru, Bahal, Avasadi, Sthira and Manda Gunatmak. Aam and Vikrut Kleda, Apachit Dhatu Utpatti hampers respective Srotas and causes Srotorodh. Aam, Vikrut Kleda, excess Dravata, Dusti of Samana Vayu, Pachaka Pitta, Kledak and Avalambaka Kapha all together leads to Avarodh in different places in the body. The symptoms which will manifest at this stage can be labelled as Purvarupas.

**STEP 2:** - At this stage Vyakti and Bhed Awastha of disease takes place. Pathogenesis of CRF takes place in two forms namely

1. CRF as Swatantra Vyadhi
2. CRF as Paratantra Vyadhi

#### **CRF AS SWATANTRA VYADHI**

The factors such as Aam, Kleda, vitiated doshas get stagnated in the Muravaha Srotas results in the symptoms like Mutrasanga, Mutrakruccha. Acharya Sushruta has mentioned that whenever Aam associated with Mutravah Srotas it will percolate with Mutra Vikruti. When this Aam and Vikrut Kleda steps forward in the kidney results in the obstruction in the free flow filtrate. Dusti of Rasa, Rakta, Aam and changes in attributes of Pravahi Kleda proceeds towards the Upalepan. This Upalepan reflects as the stagnation type of Samprapti of CRF.

Here Dhamani Upalepa represents glomerular atherosclerosis and reduced oxygenation and degenerative changes. This hampers the functioning of kidney. Here the renal damage is minimal but the Prakupita Vata does displacement (Ashayapakarsha) of essential factors and excretes it along with metabolic waste. Therefore, in initial stage of Rupavastha the symptom like proteinuria is seen.

Later stages functional loss leads to structural loss of kidney and manifest sign and symptoms of CRF.

Srotorodha [15, 16] in Vrikkas due to Aam and Vikrut Kleda are also responsible for the vitiation of Vayu and hampers the Gati of Vayu. It results in the Pratiloma Gati of Vayu. Individually due to consumption of Hetus like Vanayan, veg Vidharan, etc. Pratilomatva of Vayu takes place. The Vayu which is situated in kidney is Vyan Vayu which is also responsible for Gati. In kidney at the level of filtration functioning of Vyan Vayu takes place. Due to Pratilomatva of Vyan Vayu it results initially in to functional and further structural loss of kidney. At this stage disease there are manifestation of sign and symptoms along with Upadrava (complication) takes place and it becomes Asadhya.

#### **CRF AS PARATANTRA VYADHI**

Stages of pathogenesis which are mentioned as step 1 earlier are common till the Srotorodh. Whenever Aam and Vikrutkleda percolate to Basti it results in vitiation of Drava Guna of kapha along with Meda. This all leads to Prameha. Whenever Aam and Kleda percolate with Rasa Dhatu and Pitta, it results in the Pandu. Whenever it percolates to Kostha with Saam Pitta, Drava and Alpa Ushna Guna, Bahal Guna results in Amlapitta, whenever it percolates to Rakta with vitiation of Pravahi Kleda, Manda, Sthira, Drava and Ushna Gunas, it results in the hypertension. Whenever it percolates to Grahani, it results in sign and symptoms of Grahani. If these Vyadhi remain untreated or persist for longer duration results in the Guru Upadrava like CRF.

Aam, Ajirna, Kledadhikya, Srotorodh, Pratilom Vayu are not every time directly responsible for renal failure in each case. These Hetus may turn as a cause of Pandu, Prameha, Udara, Amlapitta and Grahani. If these diseases are persistent for a considerably long duration without getting cured, and are associated with Mitya Ahar Vihar they may lead to severe complications. In Prameha there is increase of the Drava Guna, vitiation of Kapha mainly takes place. HTN that is hypertension can be inferred as the Rakta Kleda and Pratilomatva of Vayu is mainly responsible. In Rakta Pitta there is increase of the Drava Guna along with Usna Guna of pitta and vitiation of Rakta takes place. In Udara also there is vitiation of Usna Guna and

Paka in the dhatus takes place. In Shotha there is Dusti of Kapha Rakta and Vata takes place. In Amlapitta if there is increase in the Drava Guna of pitta then results in the symptoms like Hrullas and Chardi and if there is increase in the Ushna Guna of pitta then results in the symptom like Uroudardaha. In CRF there is vitiation of Tridoshas mostly Kaphaja among the Tridoshas and Rakta. In terms of attributes there is vitiation of Drava, Ushna, Chala, Sneha, Guru, Snigdha and Manda Gunas of Tridoshas. These complications can manifest in morbid conditions like severe Sanga, Srotorodh, Vimargagaman, Shoth, Shwas and Moha leading to chronic renal failure.

## **DISCUSSION**

The symptoms like Asharddha, Aruchi, Annabhilasha, Daurbalya were found significant association with dialysis. These symptoms show marked Rasavaha Srotodusti along with formation of Aam and Vikrut Kleda.

The other symptoms like Chardi, Grahani, Amlapitta, Aatopa, Tiktasyata, also showed significance association with dialysis. All these symptoms denote marked Dushti of attributes of Kleda, Pitta, and Kapha.

The symptoms like Ubhayapada Shoth, Mukha-Shoth, Shwas are found significant with dialysis. These symptoms denote obstruction in the Srotas due to guru and Avasadi Kleda.

From all these points this can be inferred that- The dialysis is significantly effective to reduce vitiation of Rasavah Srotas, Aam, Kleda, Srotas for certain period.

The other symptoms like Angagaurava, Angamarda, Abhayantar Jwara, Annuchahata, Uroudardaha, Hrullas, Amlapitta, Amlasyata, Adhman, Bharkshaya, Bhrama, were not reduced even after dialysis. These can be labelled as deeply rooted Upadrava of CRF. It is Bhed Awastha" (Advanced stage) of CRF.

From all this it is observed that dialysis controls or cures the Raktagata Kleda and Aam. If Deepan, Pachan treatment has given to the patient along with dialysis, will help in reduction of severity of symptom as well as reduction in frequency of dialysis.

Analysis of Symptom with serum creatinine level – To rule out role of Aam, Kleda, and Srotorodh in the pathogenesis of CRF the analysis between symptoms and serum creatinine level has been done. There is significant association between serum creatinine level and Aruchi Lakshans indicates that higher percentage of cases having Aruchi among who have higher serum creatinine levels.

analysis of symptoms with serum creatinine level Like Aruchi the significance is observed in other symptoms such as Daurbalya, Annuchahata, Chardi, Tiktasyata, Shwas and Ubhaypadashoth. Significance is not observed in symptoms like Asharddha, Hrullas, Uroudardaha, amlapitta, Grahani, Amlasyata, Adhman and Aatop.

Analysis of Symptom with serum urea level – To rule out role of Aam, Kleda, and Srotorodh in the pathogenesis of CRF the analysis between symptoms and serum urea level has been done. There is significant association between serum urea level and Aruchi Lakshans indicates that higher percentage of cases having Aruchi among who have higher serum urea levels.

Like Aruchi significance is observed in symptoms like Asharddha, Daurbalya, Annabhilasha, anucchahata, Amlapitta, Grahani, Chardi, Tiktasyata and Aatop.

Analysis of symptoms with serum urea the group of symptoms like Daurbalya, Annuchahata, Chardi, Tiktasyata, Shwas have shown the significance only with serum creatinine.

The group of symptoms like Aruchi, Asharddha, Daurbalya, Annabhilasha, anucchahata, Amlapitta, Grahani, Chardi, Tiktasyata and Aatop are found significant with serum urea.

The group of symptoms found significant with both serum creatinine and serum urea are Aruchi, Daurbalya, Chardi, Tiktasyata, Shwas, Ubhaypadashoth, and Bharkshaya.

If these groups of symptoms are found in patient, then physician should think for raised serum creatinine and urea levels. These symptoms reflect as Purvaroop and Roopa Awastha in patient of CRF.

Patients who are consuming Ayurvedic treatment along with allopathic treatment have shown lower levels of serum creatinine and serum urea. There is also significance with other symptoms like Aruchi, Hrullas, Angagauravata, Angamarda, Chardi, Amlapitta, Adhman, Aatop, Annabhilasha, Adho-Vatanuloman, Daurbalya. Aampachan, Kledahar, Vatauloman, Shodhan followed by Rasayan had found association with controlled serum creatinine and urea levels along with less severity of symptoms.

## **CONCLUSION**

1) The factors responsible for vikrut mutra-utpatti are vikruti of SamanaVayu, AapanVayu, pitta, Kapha, Aam, Srotorodh, PratilomaVayu, Kleda. CRF is tridoshajavyadhi mainly kaphaja among tridoshas.

2) Aam, kleda, Pratiloma Vayu and Teekshana Aushadhi are the four main Hetus for the formation of CRF.

3) Aamaj lakshanas like Asharddha, Aruchi, Tiktasyata, Anannabhilasha are seen in most of the patients and have significant p value with serum creatinine and urea levels.

- 4) Amlapitta , hrullasa, chardi if persist in patient is the cardinal sign of progression towards CRF.
- 5)CRF is Santarpanjanya Vyadhi, which blend of dushti of Rasavaha srotas , Annavaha, Udakavaha, Medovaha, Mutravaha srotas and mainly Kaphaja among Tridoshas.
- 6) Aam, Kleda, Pratilom Vayu, and Srotorodh create spectrum of diseases such as Grahani, Amlapitta, Udar, Pandu persists as Vyadhisankar or CRF.

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3. Sushrut Samhita with Nibandha Sngraha commentary Sutrasthan chapter number 6 Sholk number 7.
4. Sushrut Samhita with Nibandha Sngraha commentary Sutrasthan Chapter number 46 Sholk number 524.
5. Sushrut Samhita with Nibandha Sngraha commentary Sutrasthan Adhyay 45 Sholk number 25.
6. Sushrut Samhita with Nibandha Sngraha commentary Sutrasthan chapter 45 sholk number 50.
7. Sushrut Samhita with Nibandha Sngraha commentary Sutrasthan Chapter 45 sholk number 55 and 114.
8. Charak Samhita with Ayurveda Deepika commentary Sutrasthan Adhyay 26 Sholk number 82.
9. Charak Samhita with Ayurveda Deepika commentary Chikitsa sthan Adhyay 13 Sholk number 48.
10. Sushrut Samhita with Nibandha Sngraha commentary Nidansthan Chapter number 3 Sholk number 27.
11. Sushrut Samhita with Nibandha Sngraha commentary Nidansthan Chapter number 1Sholk number 32.
12. Charak Samhita with Ayurveda Deepika commentary Chikitsa sthan Adhyay 26 sholk number 3.
13. Charak Samhita with Ayurveda Deepika commentary Chikitsa sthan Adhyay 28?19.
14. Sushrut Samhita with Nibandha Sngraha commentary Uttartantra Adhyay 58 sholk number 6.
15. Sushrut Samhita with Nibandha Sngraha commentary Nidansthan Chapter number 6 Sholk number 4.
16. Sushrut Samhita with Nibandha Sngraha commentary Nidansthan Chapter number 7 Sholk number 6 .

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