



THE STUDY OF CORRELATION BETWEEN DHATWAGNIMANDYA, OJO-VIKRUTI AND CHRONIC KIDNEY DISEASE.

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ABSTRACT-

Introduction: Chronic kidney disease (CKD) is the 16th leading cause of years of life of worldwide. Dhatwagnimandya and derangement in all dhatus and strotas play Major role in the pathogenesis of CKD. In CKD, dhatwagnimandya causes dhatuvaishamya ultimately leading to Ojo-Vikruti. **Aims and Objectives-** 1. To study the correlation between chronic kidney disease and dhatwagnimandya. 2. To study the correlation of chronic kidney disease and Ojo-vikruti. **Material and Methods-** An observational study was conducted in affiliated hospital. Sample size: 40. Data was obtained by assessing the sign and symptoms of dhatwagnimandya, ojo-vikruti and chronic kidney disease. **Observation** – The clinical features of CKD are correlated with dhatwagnimandya, Ojo-vikruti. Lakshanas of vitiation of Rasa dhatu Rasavaha strotas like Aruchi (Anorexia), Hrullas (Nausea), Tandra (Drowsiness/Fatigue), Angamard (Body ache), Pandutva (Anemia), Nasho Agnehe (loss of digestion Strength), Chardi (vomiting), Krushangata (weight loss) were observed. Ojo-vikruti lakshanas viz. gatra-sada, stabdh gurugatrata, vaat shoph, nidra, moha and glaani are correlated with sign and symptoms of CKD. **Conclusion-** It is concluded that there is correlation between dhatwagnimandya, ojo-vikruti and chronic kidney disease.

Keywords- Agni, Dhatwagnimandya, Ojo-Vikruti, Chronic kidney disease.

Introduction –

A multidisciplinary approach to treatment is necessary in Ayurveda, as the disease is not explicitly mentioned in classical Ayurvedic texts. However, scattered fragments of the disease can be traced in various chapters under different headings. While mentioning the genesis of vrukka (kidney), Sushrut in Shaarir Sthana told that it is a matruj Avayava and it is formed of Rakta and Meda dhatu. Chronic kidney disease (CKD) is a myriad of various pathophysiological mechanisms that are taking place in our body because of which there is a gradual loss of kidney functions over time. Although diabetes and hypertension are the primary causes, there are numerous other causes as well.¹

Urine formation as per ayurveda

The process mostly takes place in Antras, where the liquid part of Ahara enters Pakvashaya, is fully digested, then is moved to Basti with the aid of Nadi's and ultimately expelled. After Sara and Kitta's portions of food are made during Sthula Pachana Prakriya, urine is formed. The liquid part of Kitta transforms into Mutra, and the Kitta portion becomes Purisha. The primary organ in which Mutra is formed is the pakvashaya. Mutra is then thought to be controlled by Apaana vaayu and excreted by the Mootravaha srotasa after traveling to Basti. the entire internal process that occurs within the body between Amashaya and Pakvashaya. Urine creation is significantly influenced by Vrikka, Basti, Gavini, Mutrapraseka, Mutravaha strotas, Mutravaha nadis, Dhamanis, and Siras.²

Urine formation as per modern science

Urea, uric acid, water, salt, and other waste products are all found in urine, which is regarded as a bodily waste product. Three main phases make up the main process that takes place inside the kidney: glomerular filtration, tubular reabsorption, and tubular secretion.

According to Ayurveda, CKD is a form of oedema caused by Mootra Dosha Vikar. Medovaha Strotas originates from both kidneys. There is no specific discussion of the pathophysiology of renal disease. Applying ayurvedic ideas to the pathophysiology of chronic kidney disease (CKD), we find that dysfunctional Agni is the main cause. There are three varieties of agni: Dhatwagni, Bhutagni, and Jatharagni. Dhatwagni is impacted by Jatharagni's hypofunction, which ultimately results in a pathological series of events and a disease state. Acharya Vagbhata asserts that there is a direct correlation between dhatwagni and jatharagni. Every single Dhatu is a part of the Jatharagni and has its own Agni, called a Dhatwagni. Consequently, Dhatwagni also becomes manda (impaired) or dipta (aggravated) when mixed with Jatharagni, resulting in Dhatu vrudhi (excess accumulation) or kshaya (waning), as appropriate.³

Ojas, according to Sushruta, is the superfine essence of Shukradhatu and the fine essence of all the Dhatus. It is the body's biological Vigor, vitality, and immunity that enable physical activity. According to Acharya Charaka's account, Ojas is located in the heart and has the colour of Ghrita or it can be white, yellowish, or reddish. It smells like fried paddy and tastes like honey. According to Charaka, Ojas is one of the Pranayatanas, which implies that human existence will end if Ojas is destroyed. In ancient Ayurvedic writings, Acharyas have mentioned various examples to illustrate the significance and purity of Ojas. The renowned Sushruta Samhita commentator Acharya Dalhana states that just as Ghrita is found in milk in a dormant form and can be obtained through proper processing, Ojas is found in every bodily tissue in a dormant form and manifests as supreme quality following proper metabolism. According to Acharya Charaka, Ojas is created from every part of the body, much as nectar is from flowers. It's evident from the explanation above that Ojas forms as the purest secondary component following the metabolism of basic bodily components.⁴

Ojas, the essence of all seven dhatus, is what gives the body its strength. Strength is a term used to describe a variety of ideas. For example, immunity equates to strength. Because Ojas gives the body strength, it can withstand a variety of illnesses. Oja is Dash Pranaayatam, according to Acharya Charaka. The Ten Abodes of Life (Dash Pranayatana). It describes around ten key locations within the body where life is found. Ojas is regarded as the body's defence against illness degradation and decay. Both Jeevashonit and Ushma of the body are regarded as Ojas in Dalhana's commentary. Ojas is referred to as Bala by Sushrutacharya and is said to be a saarbhoot or "Tejas" component of all dhatus. As the body circulates both rakta and rasa together. Jeevashonit is also stated as ojas.⁵

Ojas is the Sara (essence) of Shukradhatu, according to Ashtanga Sangraha author Vriddha Vagbhata, while Acharya Sharangadhara views it as an Upadhatu (metabolic by-product) of Shukradhatu. According to Ashtanga Hridaya's author Vagbhata, it is a waste product of Shukradhatu's metabolism. Despite these opinions, it became clear from examining Ojas's qualities and functions that Ojas is the purest and finest essence that is created from all seven of the body's Dhatus—this is also Acharya Sushruta's belief. However, in some tantras, Rasa is also referred to by the word Ojas; in fact, some refer to Rasa as Jeevashonit, meaning blood.⁶

In ayurveda, Ojo-vikruti is broadly classified as Ojo-vistransa, Ojo-Vyapat and Ojo-kshaya. In this study Ojo-Vikruti lakshanas are correlated with CKD. Acharya Sushruta have explained three specific abnormalities or states of abnormalities in quantity and quality of Ojas which are as follows-

- 1.Oja vistransa (Displacement of Ojas from its own site)
- 2.Oja vyapat (Qualitative deterioration)
- 3.Oja kshaya (Depletion of quality and quantity)

These three states are increasingly severe and harmful leading to death. These three states are considered as three categories of immune disorders viz. Oja-vyapat as immune-aberrations and allergies; Oja-visramsas as a state of dislodged immunity and autoimmune disorders; and Oja-kshaya as a state of immunodeficiency. Some scholars opine that these states show features of immunity compromised state, immunity suppressed and immunity deficiency syndromes respectively

Aims and Objectives-

1. To study the correlation between chronic kidney disease and dhatwagnimandya.
2. To study the correlation of chronic kidney disease and Ojo-vikruti.

Ayurvedic view

Types Of Agni

Number of agni varies in various Ayurvedic Samhitas. Acharya Charak has mentioned 13 types of agni as 1 Jatharagni, 5 Bhutagni and 7 Dhatwagni. According to Acharya Sushrut there are 5 types of agni as Pachakagni, Ranjakagni, Alochakagni, Sadhakagni and Bhrajakagni. Acharya Sharangdhar has mentioned five pitta only.

Dhatwagni

Dhatwagni is the agni that Ahaar rasa uses to undergo additional metamorphosis (Sukshma Paka) till it acquires the status of a certain Dhatu. Our bodies are stabilized by dhatu. Hypo functioning of the jatharagni results from Agnimandyakara hetu sevan and the initial rasa dhatu remains undigested. When it enters the stomach, it becomes vitiated by doshas and is referred to as Ama (undigested food). This ama leads to additional Dhatwagnimandya and strotodushti⁷.

Ojo -vikruti-

SYMPTOMS OF OJO VISRANSA (first stage)-

- Sandhi vishlesh (looseness of joints)
- Gatra sada (weakness of the body)
- Dosha Chyavanam (provoked tridoshas move away from their normal seats).
- Kriya sannirodha (inability to perform normal function)

SYMPTOMS OF OJAS VYAPAD (Second stage)-

- Stabha gurugatrata (Stiffness and feeling heaviness in the body)
- Vata Shopha swelling caused by vata dosha impairment.
- Varna Bheda (change in complexion or discoloration)
- Glani (exhaustion)
- Tandra (Drowsiness or stupor)
- Nidra (sleep)

SYMPTOMS OF OJAS KSHAYA-

- Murcha (unconsciousness or fainting)
- Mansakshaya (decrease of muscle)
- Moha (mental disturbances especially in judgement).
- Pralap (delirium)
- mrityu (death)

According to Acharya Charak Weakness, fear, fatigue of sense organs, dryness of body, imbalanced mind and depression are the symptoms of the kshaya.

SIGNS AND SYMPTOMS OF CHRONIC KIDNEY DISEASE-

Tiredness	Body ache
Shortness of breath	Muscle cramps
Weight loss	Headache
Dry skin, itchy skin	Difficulty sleeping
Nausea	Swollen feet, ankle or hands
Vomiting	Loss of appetite
Urinating more or less	Chest pain
Thirst	Hypertension
Fatigue and weakness	Muscle twitches and cramps, Joint pain
Decreased mental sharpness	Sleep problems

Methodology-

A detailed case record format was prepared, which included all aspects of clinical features of dhatwagnimandya, ojo-vikruti and chronic kidney disease. The patients were subjected to detailed clinical examination to access symptomatology based on the CRF. Informed written consent of each and every patient selected for study was taken. Clinical examination of all patients was done with the help of case record format specially designed for study. Clinical observations were noted in the case record format. The criteria for study are based upon Sign and symptoms of dhatwagnimandya, ojo-vikruti and chronic kidney disease. Blood urea level and Serum creatinine were also estimated in these patients.

Clinical survey-

1. The patients were subjected to detailed clinical examination to access the signs and symptoms based on the CRF.
2. 40 Patients were selected for the study of dialysis center of Tarachand hospital.

Inclusion Criteria-

1. Patients belonging to age group between 18-70 years old.
2. Patients diagnosed as chronic kidney disease were selected from Tarachand hospital.

Research design-

Observational study-Cross sectional- Single Arm study

Study setting

Tarachand hospital- Dialysis centre.

Study Population:

Patients suffering from chronic kidney diseases visiting to Tarachand hospital (Dialysis Centre)

Statistical analysis – Chi square test and correlation coefficient test was applied.

Observations

In the present study, 40 patients suffering from chronic kidney disease fulfilling the inclusion criteria were studied. Critical explanation was written based on the findings.

Age wise distribution:

In the present study, Maximum persons, i.e., 55 % of the population belong to the age group 40-60 years, 15 % from age group 20-40 year and 30 % from the age group 60-70 years. Most of the patients were male 62 %.

Strotas dushti lakshana (Dhatwagnimadya) obtained in the patients of CKD:

Signs and symptoms of chronic kidney disease	Lakshanas of Dhatwagnimandya	Dhatu	No of patients	Percentage
Excess salivation	Prasek	Rasa	23	57.5
Weak digestive activity	Agnisadan	Rasa	32	80
Laziness	Alasya	Rasa	17	42.5
White discoloration	Shvaithya	Rasa	5	12.5
Dyspnea	Shwas	Rasa	11	27.5
Anorexia	Ashraddha	Rasa	36	90
Anorexia	Aruchi	Rasa	35	87.5
Nausea	Hrullas	Rasa	8	20
Drowsiness, fatigue	Tandra	Rasa	28	70
Body ache	Angamard	Rasa	33	82.5
Anemia	Pandutva	Rasa	23	57.5
Loss of digestion strength	Nasho agnehe	Rasa	25	62.5

Vomiting	Chardi	Rasa	12	30
Weight loss	Krushangata	Rasa	8	20
Itching	Kandu	Rakta	2	5
Polydipsia	Atitrushna	Mansa	11	27.5
Dyspnea	Shwas	Meda	5	12.5
Excessive sweating	atiswed,	Meda	29	72.5
dryness of throat and palate.	Galatalushosh	Meda	10	25
body odour	Dourgandhya,	Meda	25	62.5
Swelling	Shoth	Meda	19	47.5
Dizziness	Bhrama	Majja	17	42.5
Fainting	Murcha	Majja	9	22.5
Weakness	Durbala	Shukra	38	95
Insufficient urine production	Alpa mutrapravrutti	Mutra	38	95
Excessive sweating	Atisweda	Sweda	18	45
Thirst	Pipasa	Udak	25	62.5

In the present study, majority of lakshana of Dhatuvaishmya are correlated with Signs and symptoms of CKD. Most of lakshanas of Rasa dhatu like Aruchi (Anorexia), Hrullas (Nausea), Tandra (Drowsiness/Fatigue), Angamard (Body ache), Pandutva (Anemia), Nasho Agnehe (loss of digestion Strength), Chardi (vomiting), Krushangata (weight loss), as well as few lakshanas of rakta dhatu like Agininash (loss of digestion Strength), kandu (itching), lakshanas of mansa dhatu like Atitrushna (polydipsia), lakshana of meda dhatu like Atiswed (excessive sweating), Dourgandhya (Body Odour), Galatalushosh (dryness of throat and palate), Shoth (swelling), lakshana of majja dhatu like Murcha (Fainting), Bhram (Dizziness) and lakshana of shukra dhatu like Durbala (weakness) are seen in CKD patients. Dushti lakshanas of udakvaha and mutravaha strotas like Alpa mutrapravrutti are also seen in CKD patients.

Ojo-vikruti lakshana obtained in the patients of CKD:

Signs and symptoms of chronic kidney disease	Ojo-vikruti lakshanas	No. of patients	Percentage
Weakness of the body	Gatra sada	32	80
Stiffness and feeling heaviness in the body	Stabha gurugatrata	36	90
Swelling	Vata Shopha	19	47.5
Excessive Sleep	Nidra	12	30
Decreased mental sharpness	Moha	2	5
Exhaustion or feeling tired	Glani	10	25

Blood urea level and Sr Creatinine values in the patients of CKD:**Association of Dhatuvaishamya in CKD And Lab Parameter:**

Symptoms of Uremia	Symptoms of Dhatuvaishamya
Cognitive dysfunction (problems with thinking and remembering)	-
Fatigue	Tandra
Shortness of breath	Shwas
Loss of appetite	Kshudhamandya
Muscle cramp	-
Nausea and vomiting	Hrullas and Chardi
Itching	Kandu
Unexplained weight loss	Krushangata

Complications of uremia	Symptoms of Dhatuvaishamya
Acidosis	-
Anemia (Hemogram)	Pandutva, shvaitya
High blood pressure	24 patients were having Hypertension
Hyperkalemia	-
Hyperparathyroidism	-
Hypothyroidism	2 patients were having Hypothyroidism
Infertility	-
Malnutrition	-

Urea, a marker of uremic retention in CKD. Uraemia means raised level in the blood urea level. In the present study symptoms of uraemia are correlated with symptoms of Dhatuvaishamya. The blood urea level was highest in CKD patients. The Patients (55%) were having high blood urea level above 100 mg/dl, 30 % patients were having BUL between 60-100mg/dl and 15 % patients were having BUL below 60mg/dl. Patients were having BUL between 60-100 mg/dl shows above symptoms of Dhatuvaishamya in CKD. Patients were having BUL more than 100 mg/dl shows complications of uraemia and associated with above symptoms of Dhatuvaishamya.

Symptoms associated with a high creatinine level	Symptoms of Dhatuvaishamya
Swelling	Shoth
Fatigue	Tandra
Changes in how often you urinate	Alpa mutrapravrutti
Loss of Appetite	Kshudhanash
Nausea	Hrullas
Itching	Kandu

Symptoms of Dhatuvaishamya correlated with the symptoms of high creatinine level. The Sr. Creatinine was seen highest in CKD patients. Most of the patients (70%) were having Sr creatinine between 5-10 mg/dl, 22 % patients were having Sr creatinine below 5 mg/dl and 8 % patients were having Sr creatinine above 12 mg/dl. Patient were having Sr creatinine between 5-10 mg/dl shows most of above lakshana of Dhatuvaishamya in CKD.

There are some diseases which may become cause of other disease and when this concept comes under heading of Nidanarthkara roga in Ayurveda. Hypertension and Diabetes mellitus becomes Nidanarthkara for CKD. Diabetes and high blood pressure are the common causes of CKD in adults. In the short-term study about 39.47 % patients were having diabetes and 68.15 % patients were having hypertension. 23.68 % patient were having both Diabetes and hypertension. 21.05 % patients were having CKD due to other risk factors.

Discussion

Agni must be in healthy state in order for the body to work rhythmically. In ayurveda, we discovered that Jatharagni, Bhutagni and Dhatwagni are responsible for regulating the body's metabolic process. Therefore, variation in metabolic activity, which in ayurveda termed vitiation of Dhatwagni, is the root of the disease. This vitiation can happen when Jatharagni is damaged, Dhatwagni also suffers; alternatively, this Jatharagnimandya induces the production of ama, which results in strotorodha. The previously mentioned abnormal sequences causes rasa dhatu to become vitiated, resulting in the deterioration of subsequent dhatus as well, starting a cascade of pathogenic occurrences. Ojas is the purest, finest essence formed from all seven dhatu. Oja is circulated all over the body with plasma and blood through channels. These channels originate from the heart. Thus, all the tissues contribute in impairing immunity and strength to body. **"Tesham kshaya vruddhi shonitnimitte."** According to this sutra shonit kshaya leads all dhatu vikruti. Uttarottar dhatuvikruti leads to Ojo-vikruti.

Ojo-vikruti lakshanas like gatra-sada, stabdh gurugatrata, vaat shoph, nidra, moha and glaani are correlated with sign and symptoms of CKD.

Conclusion

Total 40 patients were included in study. Based on the observations following conclusions are drawn from the study:

Correlation of Ojo-vikruti is present in the patients of CKD with common symptoms- gatra-sada, stabdh gurugatrata, vaat shoph, nidra, moha and glaani.

Agni dushti is present in the patients of CKD in the form of Mandagni.

Along with this rasavaha, mansavaha, medovaha and shukravaha strotas dushti is present in the patients of CKD.

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