



## NEPHROTIC SYNDROME IN CHILDREN – AN AYURVEDIC APPROACH

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### ABSTRACT

Nephrotic Syndrome is an important chronic renal disease prevalent among the pediatric population. The clinical and biochemical features like loss of a large amount of protein in the urine result in edema and hypoalbuminemia. The majority of children have Idiopathic primary Nephrotic Syndrome. In *Ayurveda*, there is no direct reference regarding Nephrotic Syndrome. It may be included under prameha and involved components are *rasa*, *tridosha* predominantly *kapha*, *Ojas*, and *Ama*. Therefore, to improve the outcome, Ayurvedic formulation can be used as an adjuvant or only treatment as per the stage of the disease. Hence, an attempt is made to understand Nephrotic Syndrome in children from an *Ayurveda* point of view for its better management.

**Keywords:** Nephrotic Syndrome, Idiopathic Nephrotic Syndrome, *Ojas*, *Ama*, *Ayurveda*.

### INTRODUCTION

Nephrotic syndrome (NS) is a common paediatric kidney disease characterised by the leakage of protein from the blood into the urine through damaged glomeruli. It is an important chronic renal disease prevalent among the pediatric population and is 15 times more common in children than in adults. The incidence rate of nephrotic syndrome is 2-3/1,00,000

children per year.<sup>1</sup> Among these about 90% of children with Nephrotic Syndrome have Idiopathic Nephrotic Syndrome also known as Primary Nephrotic Syndrome. Nephrotic Syndrome is characterized by heavy proteinuria (urine protein excretion >40mg/m<sup>2</sup>/hour), hypoalbuminemia (serum protein <2.5 g/dL), hyperlipidemia (serum cholesterol

>200mg/dl) and presence of edema.<sup>2</sup> Nephrotic syndrome is a condition that causes the kidneys to leak large amounts of protein into the urine. This can lead to a range of problems including swelling of body tissues and a greater chance of catching an infection. The two types of childhood nephrotic syndrome are - Primary—the most common type of childhood nephrotic syndrome, which begins in the kidneys and affects only the kidneys. Secondary—the syndrome is caused by other diseases. It can be stimulated by some drugs also, here the causes /aetiologies of nephrotic syndrome are mentioned-

#### Etiology of nephrotic syndrome- (table-1)

#### Congenital Diseases and Childhood Nephrotic Syndrome

Congenital nephrotic syndrome is rare and affects infants in the first 3 months of life.<sup>4</sup> This type of

nephrotic syndrome, sometimes called infantile nephrotic syndrome, can be caused by

- inherited genetic defects, which are problems passed from parent to child through genes
- infections at the time of birth

#### SIGNS AND SYMPTOMS

The signs and symptoms of childhood nephrotic syndrome may include

- Edema—swelling, most often in the legs, feet, or ankles and less often in the hands or face
- Albuminuria—when a child’s urine has high levels of albumin
- hypoalbuminemia—when a child’s blood has low levels of albumin
- hyperlipidemia—when a child’s blood cholesterol and fat levels are higher than normal

#### Ayurvedic view-

SR NO	CAUSE	TYPE OF DISEASE
1.	Idiopathic	Minimal change disease, Focal segmental glomerulosclerosis (FSGS) Membranoproliferative glomerulonephritis (MPGN) Membranous nephropathy, IgM nephropathy, C1q nephropathy, thin basement membrane disease
2	Systemic diseases	Henoch–Schönlein purpura, Systemic lupus erythematosus Diabetes mellitus, Sarcoidosis
3	Infections	Hepatitis B and C, HIV, Malaria, Schistosomiasis, Syphilis, Toxoplasmosis
4	Haematological diseases	Leukaemia, Lymphoma, Sickle cell disease
5	Drugs	Non-steroidal anti-inflammatory drugs, Penicillamine, Angiotensin-converting enzyme inhibitors Pamidronate, Interferon, Mercury, Heroin, Lithium, Gold

Nephrotic Syndrome is not directly mentioned in *Ayurveda*. Achaya says any disease even if not described in the ancient text can be managed by applying fundamental principles of *Ayurveda* related to its pathogenesis. As per signs and symptoms, the management principle of *kaphaj /pitta-anubandhi kaphaj prameha* with or without *kaphahara /jalodara* is effective in this disease. *Sandrameha* can be correlated with nephrotic syndrome. Involved

components are *rasa, tridosha* predominantly *kapha, nutra, Ojas*, and *Ama*. *Srotas* involved are *Udakavaha, Medovaha*, and *manovaha*.<sup>5</sup> It can be very well compared with the concept of Aberrations of *Ojas* in *Ayurveda*.

#### Concept of Ojas:

*Balya avastha* is the stage where *Kapha* is dominant, meantime functionally underdeveloped, and in the process of development.<sup>6</sup> In *Ayurveda*, *Bala* is

described under two contexts one is *Vyadhikshamatva* and another one is *Ojas*. *Acharya Charaka* had mentioned *Ojas* as *Prakruta Kapha* i.e., normal state of *Kapha* and its instability leads to certain fluctuation in the immune system.<sup>7</sup> These fluctuation results in Auto-immune disorder. In children, immunity is determined by the *Kapha* which in turn is dependent on digestion. Digestion is the process that occurs with the help of various enzymes and secretions resembling *Agni* including *Jataragni*, *Dhatwagni*, and *Bhutagni*. This leads to a healthy and strong *Dhatu*s. Any disruption in this process results in the formation of *Ama* which is the main cause of all diseases as mentioned by *Acharya Charaka*.<sup>8</sup> This *Ama* is present at the GIT level as well as the cellular level which means *Dhatwagni* is related to cellular metabolism and intracellular enzymatic process. This leads to *Dhatu Agnimandya* which occurs at the *Medo dusti* level involving *Medovaha srotas* and its *moola* is *Vrukka* and *Vapavahana*. When *Dhatu Agnimandya* is present then *Dhatu vriddhi* will occur which is abnormal i.e., extra collection of immune complexes over the

basement membrane. If this *Ama* is not cleared then it gets converted into *Amavisha* which is toxic, insoluble, and exerts antigenic effects over the immune system leading to different exaggerated immune responses. This response is the cause of glomerular damage leading to pathology of Minimal change nephrotic syndrome.

#### Treatment:

*Ayurveda* is a medical system using complex treatment approaches. The combination of different treatment elements exerts synergistic effects and is benevolent for the outcome. Therefore, a multimodal Ayurvedic treatment has been selected for the management of Minimal change Nephrotic syndrome.

1. *Ama Pachana* – First line of treatment.
2. *Ojo Vyapathara Chikitsa*.
3. *Medovaha sroto Dustihara Chikitsa*.
4. *Yakruta uttejaka* drugs – To increase liver function.
5. *Rasayana* – For regeneration of damaged tissues.
6. Protein supplementation.
7. Correction of food habits and lifestyle.
8. Psychological treatment.

#### Formulations used in nephrotic syndrome-(table-2)

Sr no	Type of drugs	Name of drugs
1.	Herbs	Gokshura, Punarnava, Guduchi, Anantmool, Haritaki, Bhumiamlaki.
2.	Kwath	Brihatyadi Kwath, Punarnavadi Kwath, Gokshuradi Kwath, Trinpanchmoolkwath
3.	Arista-asava	Punarnavasav, Dashmoolarista, Sarivadyasav
4.	Vati	Chandraprabhavati, Gokshuradi Guggulu, Gomutra-Haritaki
5.	rasaushadha	Sarvatobhadra Ras, Prawal Panchamrut Ras, Basantkusumakar Ras
6.	Deepan, Anulomana	Rajanyadi Churna, Avipattikar Churna, Triphala Churna, Rasayan Churna
7.	Ghrita	Amalakyadi Ghrita, Sukumara Ghrita, Mahatiktaka Ghrita

## DISCUSSION

Nephrotic Syndrome is a chronic, relapsing renal disease commonly seen in paediatric practice having a risk of systemic infection, renal insufficiency, and many other complications. According to *Ayurveda* though all *Tridosha*, as well as *Dushya* (*Rasa*, *Rakta*, *Udaka*, *Mutra*, and *Oja*), are involved, *Kapha* and *Vata* are more aggravated in this disease. The treatment consideration may vary from patient to

patient as *Pittanubandha* has a fever and recurrent skin allergy in his past history, medicated *pitta* pacifying ghrita, and *Pittarechaka dravya* are prescribed in the same treatment. In chronic cases to prevent relapse, improve *agni* mainly *jatharagni* followed by *rasayana dravya kwath* or processed milk for 1-2 months can be prescribed. If there is massive swelling of face, abdomen, and limbs with 3+/-more proteinuria and very low serum protein

present in relapse case and non-responder to steroid case, always suggest correcting protein first by intravenous route with oral ayurveda treatment otherwise heart may involve manifest as high blood pressure. Nephrotic Syndrome may be a consequence of a primary glomerular defect or an immunological abnormality that comes under the broad heading of *Ama*. In *Ayurveda* it can be managed in two ways, firstly eradicate the cause of the disease; secondly treatment of disease through drugs that are helpful to reduce the symptoms as well as regenerate the damaged tissues. Along with this following are *Dinacharya* and *Ritucharya* for their prevention in the future.

## CONCLUSION

Minimal change Nephrotic syndrome most common type of Idiopathic Nephrotic Syndrome is associated with complex disturbances in the immune system. Several immune modulators and immune suppressants have been used for the management of Nephrotic syndrome. But these drugs have potentially harmful side effects, hence herbal immune modulators and nephro protective drugs can be adopted with or without conventional treatment for its management.

## REFERENCES

1. Recent Advances in Pediatrics-20 Hot topics by Suraj Gupte, published by JAYPEE Brothers Medical Publishers (P) Ltd., Edition: 2011, Chapter 3, Page no.44.
2. Paediatric for practitioner chief editor Sharad Thora and VP Goswami, published by JAYPEE Brothers Medical Publishers (P) Ltd., Edition: 2014, Chapter 51, Page no.367.
3. An international study of kidney diseases in children. Nephrotic syndrome in children: Prediction of

histopathology from clinical and laboratory characteristics at the time of diagnosis. *Kidney Int* 1978; 13:150-165.

4. An international study of kidney diseases in children. Nephrotic syndrome in children: Prediction of histopathology from clinical and laboratory characteristics at the time of diagnosis. *Kidney Int* 1978; 13:150-165.
5. CharakSamhita with vidyotini hindi commentary of Pt. Kashinath shastri, part 2, chaukhambha Sanskrit sansthan, Varanasi, 5th ed., 1997, Chikitsa Sthana, 6, page 230-243, 13, page 385-394.
6. Agnivesha, Charaka Samhita edited with 'Caraka-Chandrika' Hindi commentary along with special deliberation and appendices, etc. By Dr. Brahmanand Tripathi, published by Chaukhamba Surbharati Parakashan Varanasi, Edition: 2016, Vimana Sthana, Chapter 8, Shloka no.122, Page no.771.
7. Agnivesha, Charaka Samhita edited with 'Caraka-Chandrika' Hindi commentary along with special deliberation and appendices, etc. By Dr. Brahmanand Tripathi, published by Chaukhamba Surbharati Prakashan Varanasi, Edition: 2016, Sutra Sthana, Chapter 17, Shloka no.117, Page no.365.
8. Agnivesha, Charaka Samhita edited with 'Caraka-Chandrika' Hindi commentary along with special deliberation and appendices, etc. By Dr. Brahmanand Tripathi, published by Chaukhamba Surbharati Prakashan Varanasi, Edition: 2016, Chikitsa Sthana, Chapter 15, Shloka no.04, Page no.550.

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