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MANAGEMENT OF A CASE OF NEPHROTIC SYNDROME WITH ISM PROTOCOL

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ABSTRACT

Nephrotic Syndrome is the clinical manifestation of glomerular diseases associated with heavy protein urea defined as > 3.5 gm/ 24 hr or urine protein: creatine ratio >2. It is characterized by large urinary losses of protein are hypoalbuminemia, edema, and hyperlipidemia (cholesterol > 200 mg/dl). Here we present a case study of 1 year and 9 Month old female child patient, 1st by birth order, born of non-consanguineous marriage, brought & informed by father, mainly came with complaints of Periorbital Swelling, Ubhay pad shotha (Pedal Edema), Udarvriddhi (Abdominal Edema), Edema Over labia Majora, Edema over Gluteal Region, Irritable, sarvang shotha (Generalized Anasarca all over body), diagnosed as nephrotic syndrome she was apparently normal before 1 &1/2 month. Parents noticed edema on the face since 1 Month. Edema on limbs, abdomen & all over body appears after that. Treatment taken in private hospital & civil Hospital Osmanabad, because of its poor prognostic criteria and condition the child was referred to tertiary care center then for further management admitted in Government Ayurved Hospital Osmanabad. The Patient was treated with an integrated approach of Ayurveda appreciable results were observed.

KEYWORDS: Nephrotic Syndrome, Ayurvedic, Sarvang shotha, Periorbital swelling, Pedal Edema.

INTRODUCTION

Most children with Nephrotic syndrome have a form of primary or idiopathic nephrotic syndrome. Glomerular lesions associated with idiopathic syndrome include minimal change disease (the most common), focal segmental glomerulosclerosis, membranoproliferative glomerulonephritis, and membranous nephropathy. It may also be secondary to systemic diseases such as systemic lupus erythematous, Henoch schonlein purpura, malignancy and infections (hepatitis, HIV, and Malaria). Hereditary proteinuria syndromes are caused by mutations in genes that encode critical protein components of the glomerular filtration apparatus. It affects 1-3 per 100000 children < 16 yr of age. Without treatment nephrotic syndrome is associated with a high risk of death, most commonly from infections. 80% of children with nephrotic syndrome respond to corticosteroid therapy. Although glucocorticoid therapy is standard therapy for nephrotic syndrome, neither the target cell nor the mechanism of action of steroid has been determined.[1-2]

CASE REPORT

1) Periorbital Swelling	- 1 Month
2) Pedal Edema	- 15 Days
3) Abdominal Edema	- 15 Days
4) Edema Over labia Majora	- 15 Days
5) Edema over Gluteal Region	- 15 Days
6) Irritable (Generalized Anasarca)	- 15 Days

History of Present Illness

1 year and 9 month old female child patient, 1st by birth order, born of non-consanguineous marriage, brought & informed by father, mainly came with complaints of Periorbital Swelling[3], *Ubhay pad shotha*[4] (Pedal Edema), *Udarvriddhi*[5] (Abdominal edema), Edema Over labia Majora, edema over Gluteal Region, *pitting* edema[6], *Irritable*, *sarvang* shotha (Generalized Anasarca all over body), diagnosed as nephrotic syndrome. She was apparently normal before 1 &1/2 month. Parents noticed Edema on the face since 1 Month. Edema on limbs, abdomen & all over body appeared after that. Treatment has taken in private hospital & civil Hospital Osmanabad, because of its poor prognostic criteria and condition the child was referred to tertiary care center then for further management admitted in Government Ayurved Hospital, Osmanabad.

Previous disease history

H/O – Fever 15 days back before Edema.

The patient wasn't taken treatment properly.

Birth history

Prenatal - PIH detected after 7 months of pregnancy, one-month Medication was taken.

Natal - 35 Week normal delivery at Government hospital Solapur.

No h/o admission of in NICU.

Immunization

Received as per national immunization schedule, no extra vaccines received.

Developmental history

All Milestones are achieved up to the present age.

Diet history

Breastfeeding up to 1 year, weaning started at around 6-7 months, no any h/o vitamins, mineral supplementation received.

General Examination

- Vitals G C - Moderate
  T - Afebrile
  HR - 120/ min
  BP - 120/90
- Anthropometry (On admission)
- Weight - 10.3 Kg
- Height - 79 cm
- Head circumference - 44 cm
- Chest circumference - 47 cm
- Mid-arm circumference - 15 cm
- Abdominal Girth - 50 cm
- Periorbital Swelling ++
- Abdominal Edema ++
- Pedal Edema ++
- Edema Over labia Majora ++

- Edema Over Gluteal Region ++
- Irritable +
- RS - AEBE clear
- CVS - S1S2 Normal
- CNS - Conscious, Well Oriented
- PA - Fluid thrill Present, Shifting Dullness, Hepatomegaly Present.

Investigations

1. CBC
2. Urine Routine and microscopic
3. Renal function test.
4. Liver function test.
5. Lipid profile.

Fluctuations of Events and Investigations During the Course of Treatment

Table No. – 1.

Sr. No.	CBC	09/12/2018	31/12/2018	05/01/2019	11/01/2019	14/01/2019	17/01/2019
1	HB	9.9	10.3	7	15.8	15.4	12.5
2	WBC	10400	20500	9200	14000	16400	12200
3	Neutrophils	31	14.7	7.6	10.9	8.2	78
4	Lymphocytes	63	54	1.2	2.9	5.6	16
5	Eosinophils	04	-	-	-	-	00
6	Monocytes	02	04	04	03	06	06
7	Basophils	00	00	00	00	00	00
8	Platelets	623000	853000	521000	256000	456000	575000
9	RBC Count	4.92	5.04	2.9	6.05	5.86	5.07
10	Haematocrit	28.1	33.3	18.3	48.1	46.9	37.9
11	MCV	57.2	66.1	63.1	79.5	80	74.75
12	MCH	20.1	20.4	24.1	26.5	26.3	24.65
13	MCHC	35.2	30.9	38.2	32.8	32.8	32.98

Table No. 2.

Sr. No.	Urine	01/01	03/01	06/01	09/01	15/01	16/01	18/01	19/01	21/01	23/01
1	Colour	Pale Yellow		Pale Yellow		Pale Yellow	Pale Yellow	Pale Yellow	Pale Yellow	Pale Yellow	Pale Yellow
2	Appearance	Slightly Turbid		Clear		Clear	Clear	Clear	Clear	Clear	Clear
3	Specific Gravity	1.010	1.015	-	1.010	1.025	1.015	1.005	1.010	1.025	1.000
4	PH	6	6.5	-	5	6.5	6.5	7	7	5	8
5	Proteins	4+	500	Trace	30	500	100	100	100	100	30
6	Sugar	Absent	50	Nil	Nil	100	50	300	300	300	300
7	Ketone Bodies	Trace	5.2	-	Negative	Negative	Negative	Negative	Negative	Negative	Negative
8	Leucocytes	Absent	25	Negative	Negative	25	Negative	Negative	Negative	Negative	Negative
9	RBC	8-10	50	Nil	50	50	10	Negative	Negative	250	10
10	Pus cells	2-4		2-3	-	-	-	-	-	-	-
11	Epithelial Cells	8-10		0-1	-	-	-	-	-	-	-
12	Casts	Granular		Nil	-	-	-	-	-	-	-

Table No. 3.

Sr. No.	Investigation	09/12 /18	31/12 /2019	05/01 /2019	11/01 /2019	14/01 /2019	17/01 2019	19/01 /2019
1	S. Creatinine	0.5	0.7	0.7	0.39			
2	S. Albumin	4.6	-	2.4	-	1.25		
3	Blood Urea		26		20	-		
4	S. Cholesterol		294		161	25.1		
5	S. HDL		52		46.9	43.3		
6	S. Triglyceride		133		325	468		
7	S. LDL		215.4		49	120.1		
8	S. VLDL		26.6		65	93.6		
9	Cholesterol / HDL ratio		5.65		3.43			
10	LDL / HDL Ratio		4.14		1.046			
11	S. Sodium			151	138	136	132	
12	S. Potassium			4.1	2.3	5.4	4.1	
13	S. Calcium			1.24	3.8	-	-	8.6
14	S. Chlorides			119	98	109	103	

Table No. 4.

	04/01/2019	12/01/2019	25/01/2019
USG	-Mild Hepatomegaly -Echogenic Kidneys & -Early Nephritis? -Nephrotic Syndrome? -Mild Ascites with Dilated Sluggish Bowel Loops	-Rt. Kidney – 6.8* 2.9 cm -Lt. Kidney – 8.1*2.8 cm -Free Fluid in Abdomen & Pelvis -Ascites -Increased Echotexture of Kidney	-Free fluid in the kidney -Mild Ascites -Echogenic Kidneys

DIAGNOSIS

- Generalized Edema (Anasarca) without Oliguria
- Most probably of renal etiology, with hypertension and hematuria.
- Secondary nephrotic syndrome due to post-infection.
- Mild ascites.

TREATMENT GIVEN

1. Salt Restricted diet.
2. Diet - Protein intake of 1.5 - 2 gm / kg / day
3. Fluid restriction.
4. Tab. Prednisolone – 10 mg TDS up to (17/01/2019)
5. Tab. Methyl Prednisolone 8 mg TDS since 16/01/2019
6. Tab. Lasix - 10 mg BD up to 19/01/2019 then OD up to 22/01/2019.
7. Syrup. Zifi. – 50 mg BD for 5 Days

8. Inj. Cefoperazone with sulbactam 500 mg BD * 3 Days, 250 mg TDS * 2 days, 250 mg BD * 2 Days IV.
9. Inj. Amikacin 75 mg BD * 7 Days IV.
10. Inj. Ranitidine 10 mg BD * 7 Days IV.
11. Punarnawashtak Kwatha 2.5 ml BD * 5 Days
12. Syrup Mebarid 5 ml BD * 5 Days For Diarrhoea
13. Syrup Zinc 2.5 ml BD * 14 Days For Diarrhoea
14. Syrup Neutroline B 2.5 ml *11 Days For Diarrhoea
15. Tab Sanjivani Vati 2 TDS with curd * 3 Days. For Diarrhoea
16. Blood Transfusion on 07/01/2019 & 09/01/2019. 150 ml over 6 hr.
17. Syrup Amyron 5 ml OD since 09/01/2019
18. Syrup Becosule 5 ml OD since 10/01/2019
19. Syrup Kesol 4ml BD * 3 Days on 11/01/2019 Coconut water every third day.
20. Syrup Neeri 5 ml BD since 11/01/2019
21. Syrup Calcifit 2.5 ml BD since 11/01/2019
22. Syrup Cefakind 125 mg BD * 5 Days
23. Syrup Tonoferon Pediatric 2.5 ml OD.
24. Syrup Panchavalkal Kwatha. 5 ml BD
25. Tab. Sarpagandha (Reserpine) 1/ 10^{Th} BD from 24/01/2019.

On Discharge Medicine

1. Tab. Methyl Prednisolone 8 mg BD.
2. Syrup Amyron 5 ml OD.
3. Syrup Becosule 5 ml OD.
4. Syrup Varunadi Kwatha 5 ml BD.
5. Syrup Calcifit 2.5 ml BD.
6. Syrup Tonoferon Pediatric 2.5 ml OD.
7. Tab. Sarpagandha $1/10^{th}$ BD.

SUMMARY

The patient was admitted in this hospital on 31/12/2018 and put on oral medications with high protein, low carbohydrate and salt restricted diet along with fluid restriction.[7] Orally steroid in the form of a tab. Prednisolone, diuretic like tab. Frusemide[8] antibiotic cefixime and punarnavashtak Kwatha[9] was given. Daily charting of parameters like TPR, BP, and

abdominal girth and input-output every 2 hourly was done meticulously. Later on day 5th patient started complaining of multiple watery loose stools along with pain in abdomen and mild fever. Abdomen girth has shown significant increase hence patient was diagnosed as a complication in form of diarrhea secondary to peritonitis; to control loose stools punarnavashtak Kwatha has withdrawn with a thought that it has kutki (picrorhiza kurrooa) has one ingredient may have purgative property. CBC was done which shown an increase in leucocytes count. Inj. Cefoperazone with sulbactam with a dose of 100 mg/kg/ day in divided doses along with all antidiarrheal management like zinc, lactobacillus, and supplementation. Syr. Mebarid and Sanjivani Vati with curd as a polyherbal antidiarrheal were included in the management fluid therapy for severe dehydration with NCBL guidelines was given. Patient's condition recorded daily. On 5/01/2019 CBC report shown a decrease in HB percentage along with all indices below the acceptable levels and hence pack red cell at a dose of 15ml / kg/ day over 6 hours along with all precautionary measures was infused on alternate day basis twice. Electrolyte reports were done and electrolyte correction measures were taken and coconut water was advised every third day. To correct hypokalemia, as it is shown in Blood investigation introduction of oral potassium in terms of syrup kesol was given, with the improvement in the patient`s clinical condition. I.V. antibiotics and other supportive drugs along with fluid were stopped and patient shifted on oral medication like multivitamins, calcium supplements, and polyherbal health vitalizer. During the course of illness with peritonitis patient developed severe bradycardia her heart rate was in the range of 50 to 60, so most of the medications like I.V. metrogyl, sanjivani vati withdrawn and as per disturbances in electrolyte observed, supplementation was given. Afterward patient was hemodynamically stable. Her repeated CBC and serum electrolyte shown normal limits but patients edema was not responding to ongoing treatments so steroid was shifted to methyl Prednisolone with appropriate doses on 16/01/2019. Again patient has raised BP and tachycardia afterword during the course of treatment tab. Sarpagandha ghanvati which contains Rauwolfia serpentina was added. The patient responded to the steroidal therapy with all other supportive medications, hence patient discharged.

DISCUSSION

The patient was sonologically, biochemically and clinically been diagnosed as Nephrotic syndrome but as age and complications were there, an integrated approach was taken. So ayurvedic drug regimen was given as per the symptoms along with modern medications because of that appreciable result might be happened.

The recovery of the patient was fast. As per ayurvedic text, the patient comes in the category of Sahaja, vrikka vikara of tri doshaja origin in terms of sannipata so patients all dhatus i.e. rasa, rakta, mutra gets kshina, so the patient has lost strength as well as immunity (Oja). Patient has good agnibala throughout the course of illness which is been supported by steroidal therapy along with polyherbal therapy. Gradually with this integrated approach patient responds to the management and urine albumin level was normal within 4 weeks. Her bala, oja dhatus regain and tridosha samata was obtained as her parameter like serum albumin, lipid profile etc. was normalized.

CONCLUSION

Ayurvedic hospitals have skilled health care providers but with limited equipment, so such cases were mostly referred to the tertiary care referral center or integrated centers attached to medical colleges. We were in favor of referring the patient to a higher tertiary care center. Patient's parents were not willing to shift their child to another city because of the economic and social constraint. Our dedicated vigilance, round the clock service and supervision with an integral approach help the patient to developed faith in the system and as well as in doctors. Hence proper training of ISM practitioners to deal with such conditions may really help in providing tertiary care to the needed. It proves an integrated, indigenous system of medicine should be developed and adopted to improve health care facilities even to the small villages where ISM practitioner are available.

REFERENCES

1 Kliegman, Stanton St Geme Schor: Nelson Textbook of Pediatrics. 1st south Asia ed., New Delhi; Elsevier, 2016; 2521.

2 Ghai essential pediatrics editors Vinod K Paul and Arvind Bagga, 8th Edition, 2013, CBS Publishers and Distributors Pvt. Limited, Reprint 2016, P.N. 477.

3 Pandit Hemaraj Sarma, Ayurvedalankar Sri Satyapal Bhisagacharya, Kashyapa Samhita, Chaukhamba Sanskrit Sansthan, Varanasi, 2073. P(520).

4 Kaviraj Ambikadutta Sastri, Susrut Samhita, edited by Ayurved tattva sandipika, Part 1, Chaukhamba Sanskrit Sansthan, Varanasi, V.S.2074. P333.

5 Kaviraj Ambikadutta Sastri, Susrut Samhita, edited by Ayurved tattva sandipika, Part 1, Chaukhamba Sanskrit Sansthan, Varanasi, V.S.2074. P333.

6 Vaidya Laksmipati Sastri, edited by Brahmasankar Sastri, Yogratnakar with Vidyotini Hindi commentary, Uttarardha, Chaukhamba Prakashan, 2072, P 122.

7 Ghai essential pediatrics editors Vinod K Paul and Arvind Bagga, 8th Edition, 2013, CBS Publishers and Distributors Pvt. Limited, Reprint 2016, P.N. 478.

8 Nelson Textbook of Pediatrics Kliegman, Stanton, St Geme, Schor, 1st South Asia edition, Volume 3, Elsevier, 2016; 2525.

9 Lalachand vaidya, Bhaishya Ratnavali, Adhyay 42, Shlok 13.