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Original Research Paper

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STUDY OF DEMOGRAPHIC PROFILE AND CLINICAL PRESENTATION OF NEPHROTIC SYNDROME CASES IN PAEDIATRIC AGE GROUP

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ABSTRACT

Background: Nephrotic Syndrome is one of the best known presentation of paediatric kidney disease.
Aim: To study demographic profile and clinical presentation of Nephrotic Syndrome cases in Paediatric age group
Material & Methods: This was a prospective observational study, conducted in Department of paediatric in teaching hospital in India over a period of 18 month. All children of paediatric age suspected cases of nephrotic syndrome coming to the Paediatric department both indoor and outdoor patient were evaluated for Nephrotic Syndrome based on inclusion and exclusion criteria. Data was collected using a predesigned Performa. Participants were clinically examined thoroughly.
Statistical analysis: percentages and proportions were used for descriptive statistics.
Results: Total 50 cases of Nephrotic Sydrome were included in the study. Majority of cases were in the age group of 2 to 8 years (84%). More males were affected than female. Sex ratio was 2:1. Most common type of Nephrotic Syndrome was primary one observed in 90% of the cases. Most common presenting feature was facial edema (82%) followed by Cough (70%) and fever (60%). Hematuria was observed in 4 patients.
Conclusion: In the present study incidence of the nephrotuc syndrome was 50. Most common age group was 2 t 8 years. More cases of Males were there than females. The ratio was 2:1. Common clinical presentations were edema, cough and fever.

KEYWORDS : Nephrotic Syndrome, Paediatric, Demographic Profile, Clinical Presentation

INTRODUCTION:

Nephrotic syndrome is characterized by heavy proteinuria, hypoalbuminemia (serum albumin <2.5 g/dl), hyperlipidemia (serum cholesterol >200 mg/dl) and edema [1]. Nephrotic syndrome in children is mostly minimal change nephrotic syndrome. Nephrotic syndrome with significant lesions affects older children. Nephrotic syndrome can also be defined as, manifestation of glomerular disease, characterized by nephrotic range proteinuria and a triad of clinical findings associated with large urinary losses of protein: hypoalbuminemia, edema and hyperlipidemia [2]. Nephrotic Syndrome is one of the best known presentation of paediatric kidney disease. It has an incidence of three cases per 1,00,000 each year [3] .The annual incidence is 2-3 cases 100000 children per year in most western countries and higher in underdeveloped countries resulting predominantly from malaria[1] . The estimated annual incidence in health children is 2 to 7 new cases per 100,000 children younger than 18 years making it relatively common disease in paediatric. [4] In Indian scenario, incidence is similar to western countries. Male to female ratio has been observed as 2:1 [5].

The present study was conducted with an aim to study demographic profile and clinical presentation of the Nephrotic syndrome cases.

MATERIAL AND METHODS:

This was a prospective observational study, conducted in department of paediatric in teaching hospital in India over a period of 18 month. All children of paediatric age suspected cases of nephrotic syndrome coming to the Paediatric department both indoor and outdoor patient were evaluated for nephrotic syndrome.

Those patients whose

- Urinary albumin was < or =2.5g/dl,
- Proteinuria more than 3+
- Hypercholesterolemia >200mg/dl
- Spot protein creatinine ratio >2mg/mg were classified as nephrotic

Selection of cases was based on the following criteria
Inclusion criteria -

1. Newly Suspected cases of Nephrotic syndrome in children.
2. Patients who are not on any immunosuppressive drug therapy.
3. Children with no gross urogenital anomalies.
4. Nephrotic syndrome not associated with any chronic disease

Exclusion criteria- All those clinically suspected cases of Nephrotic syndrome whose diagnosis is not clinico-pathologically consistent with nephrotic syndrome.

Study Tool: Data was collected using a predesigned Performa. Participants were examined thoroughly. Thorough clinical examination findings of subjects of study was recorded in a printed proforma. It included detailed history, history of immunisation, clinical history, detailed clinical examination with measurement of blood pressure by auscultatory method and anthropometric measurements. Laboratory investigations included blood examination, urine examination and any special investigation if required.

Statistical Analysis: Demographic details were mentioned as proportion and percentages. Clinical Features were observed and there percentages were noted.

Ethical considerations: The study was approved by the Institutional Ethics Committee. The study was conducted according to the Declaration of Helsinki. A written informed consent was taken from all parents / guardians of the child after explaining the purpose and study and resolving their queries if any.

RESULTS:

The study was conducted in tertiary care centre. 50 cases of nephrotic syndrome were studied during the study period. Majority of cases of nephrotic syndrome were in the age group of 2 to 8 years (n= 42) 84%

Table no. 1 - Age wise incidence of Nephrotic Syndrome.

Age Group	Number of cases	Percentage (%)
Infantile (3 Month to 1 Year)	1	2%
Childhood (1 to 8 Year)	42	84%
Pubertal (8 to 16 year)	7	14%

In this study more males were affected than female. Sex ratio was 2:1

Table no. 2 - Gender wise incidence of cases of Nephrotic syndrome.

Sex	Frequency	Percentage (%)
Male	34	68%
Female	16	32%
Total	50	100%

Table no.3 -Type of Nephrotic Syndrome.

Type	Frequency	Percentage (%)
Primary	45	90%
Secondary - Postinfectious	2	4%
Secondary to Drug therapy	1	2%
Secondary to Malignancy	1	2%
Secondary to Multisystem disorder	1	2%

Most common type was primary (90%) followed by secondary to infection (4%)

Most common presenting feature was facial edema (82%). Most patients of facial edema, the Periorbital edema was most common. 8% has edema of legs and 5% cases had generalised edema.

Table no.4 - Patients presenting with complaint other than swelling.

Cases	Cough	Fever	Weight gain	Loss of appetite	Frequency of micturation	Itching	Loose Stool
Number	35	30	15	18	15	1	2
Percentage (%)	70%	60%	30%	36%	30%	2%	4%

Cough (70%) and fever (60%) were common clinical presentation. While other clinical presentations were weight gain (30%), loss appetite (36%) and increased frequency of micturition (30%).

The patients presenting with haematuria were less. Only 4 patients out of 50 were presented with haematuria.

DISCUSSION:

Nephrotic syndrome is one of the most common Paediatric renal disorders. Heavy proteinuria, clinically manifesting as the nephrotic syndrome, is almost always due to primary renal involvement in childhood.

In the present study the incidence of nephrotic was found out, which was 50 cases ,during the period of study. Mostly in 2 to 8 years of age, mean 4.7 year. The present observation is in agreement with Heymann, Marker et al (1972), Agrawal et al (1975) 65% of cases occurring before 5 year of age and Noushadai et al (2016) [6,7,8]. This compares well with Gulati et al (1995), P sengupttam(2004) , that is 5.9 years, Ajayan et al (2013) that is 6.8 years, Paul et al (2013) that is 5 year .[6,9,10]

In the present study the male to female ratio was 2:1 (2.1:1). Males 68% and Females 32%. This is in agreement with , Gulati et al (1995) ,P Senguttuvam et al (2012) that is boys (61.30%) and girls (38.69%), Sarkar et al (2012) that is boys 63% and girls 37%,Moorani et al (2012) girls 43.3% and boys 56.6%. Ajayan et al (2013) boys 53% and girls 47%, Barua et al (2014) boys 52% and girls 48%, Noushadali et al (2016) boys 76 and girls 24 %[6,9].

In the present study of 50 patients of nephrotic syndrome cases following clinical presentations were observed. 30(60%) presented with fever, 15(30%) Presented with weight gain, 35(70%) Presented with cough, 18(36%) Presented with loss of appetite, 15(30%) Frequency of Micturation, 2 (4%) Loose Motion , 1 (2%) Itching. Cough is most common complaint, showing upper respiratory tract infection been most common. This was in agreement with Moorani et al (2012) that is 8 (13.3%), Noushadali et al (2016) 6 (12%) , Gulati et al (1995) that is 5.2% were showing upper respiratory tract infection. Urinary complaint were found in 22% in Noushadali et al (2016) , Gulati et al (1995) 13.7%, Moorani et al (2012) 25% [89,90,91]. Loose stool were in Moorani et al (2012) i.e 7(11.7%) , Noushadali et al (2016) 5(10%).

CONCLUSION:

In the present study incidence of the nephrotuc syndrome was 50. Most commonly affected age group was 2 to 8 years. More cases of Males were there than females. The sex ratio was 2:1. It was concluded that male preponderance is more in case of nephrotic syndrome than females. Clinical presentations were observed and noted. Edema predominantly facial edema was found to be most common followed by cough and fever.

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