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REVIEW ARTICLE **OPEN ACCESS**

Nephrotic Syndrome: A review article

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ABSTRACT
Nephrotic syndrome is a degenerative renal diseases which primarly affects the children. Its key findings are edema, hypoalbuminemia, hyperlipedemia and proteinuria. It is mostly caused when they body immune system attacks its own glomerular cells making it more permeable to protein thereby leading to low protein content in the body and it also reduces the renal filteration ability which ultimately leads to edema. It can be treated with some dietary modifications and use of immunosuppressant drugs. Its prognosis depends upon the condition of the patients.
Keywords: *glomerular, edema, hypoalbuminemia, hyperlipedemia*

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INTRODUCTION

Nephrotic syndrome is a clinical disorders of the kidney in which the glomerular basement membrane becomes altered due to which there occurs a major clinical findings which are proteinuria, hyperlipedemia, hypoalbuminemia and edema. All these clinical syndrome which combine caused nephrotic syndrome. In this study a review will be done about the nephrotic syndrome and also the etiological causes and the treatment modalities available [1].

ETIOLOGY

Roughly half of cases are reported to have an episode of an infectious condition, especially one of the upper respiratory tract, a third have an allergic reaction, and less frequently have an insect bite, a vaccination, medical treatment, or mental stress as a trigger..

Primary causes:

- Membranous nephropathy
- localised glomerulosclerosis
- hereditary nephropathies
- Little change, and nephropathy [2].

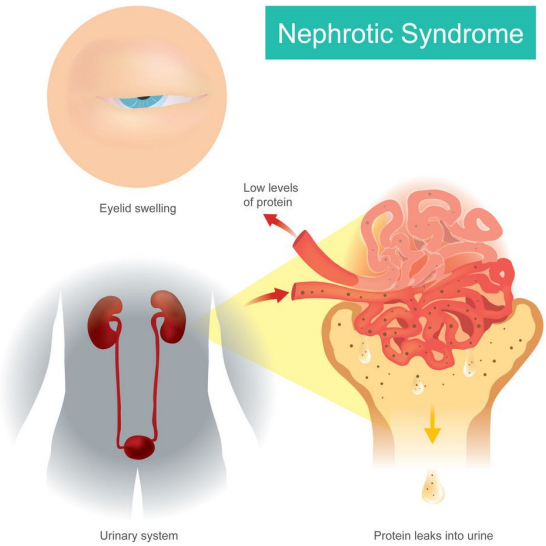

Fig 1: Nephrotic syndrome (about kid's health)

Secondary causes:

- Diabetic nephropathy
- Immune conditions like lupus erythematosus, antibody vasculitis, berger disease, good pasture syndrome,
- HIV, hepatitis B and C, CMV, toxoplasmosis, parvovirus B1, amyloidosis and paraproteinemias, and preeclampsia are all infections [3].

Minimal change glomerulonephritis is the most typical cause in kids. Membranous nephropathy is the most frequent cause of nephrotic syndrome in white individuals, but focal segmental glomerulosclerosis is the most typical cause in populations of African ancestry. The production of phospholipidase antibodies, immune complex deposition, or the emergence of antibodies may all be contributing factors to nephrotic syndrome [4].

EPIDEMIOLOGY

A serious chronic condition affecting children is nephrotic syndrome. Nephrotic syndrome is thought to occur in two to seven new cases per 100,000 children under the age of 18 each year in healthy children. In younger age groups, it is more prevalent in boys than in girls, but once adolescence is reached, there is no discernible difference between the sexes.In general, men are more likely to develop nephrotic syndrome than women, with African American and Hispanic populations seeing higher incidence and more severe disease [5].

CLINICAL FEATURES

The following symptoms are related to nephrotic syndrome:

- Hypoalbumenia: low amounts of the protein albumin in the blood;
- Albuminuria: high levels of protein in the urine
- Hyperlipidemia: high levels of lipids and cholesterol in the blood

Nephrotic syndrome symptoms include:

- Edema around eyes, legs and labia
- Anasarca
- Ascitis
- Hydrothorax and hydrocele
- Decrease urine output, urine appreas frothy and has increased specific gravity
- Hematuria
- Fever, rash and joint pain
- Pallor
- Irritability
- Loss of appetite but weight gain
- Susceptibility to infections [6].

EVALUATION/ DIAGNOSIS

URINE TEST: Spectrum of nephrotic has 3+ or 4+ values on the dipstick or semiquantitative sulfosalicylic acid tests will indicate proteinuria.Proteinuria is detectable in urine samples kept for more than 24 hours.

BLOOD TEST: Serum albumin levels in nephrotic syndrome are often low; they frequently fall below 2.5 g/dl. Creatinine levels vary according to the severity of renal impairment. Triglyceride and total cholesterol levels are frequently higher.

ULTRASONOGRAPHY: One kidney is a relative contraindication to kidney biopsy, and those with one kidney may be more prone to developing focal glomerulosclerosis [7].

TREATMENT

There are many treatment modalities available for the management of patient with nephrotic syndrome. The major ones are enlisted below:

1. Medication:

- The ultimate drug of choice for nephrotic syndrome is Prednisolone which must be given in a dosage of 2mg/kg/day orally for 6 weeks and after that 1.5 mg/kg as a single dose must be given on every alternate days after which the treatment must be stopped.
- Alkalyting agents such as cyclophosphamide, cyclosporine nitrogen mustard must also be given in case there occurs a frequent relapses

2. Dietary changes

- The patient must be given protein rich diet as there is massive loss of protein in the body

- In case of marked edema the patient must be given a sodium low diet and water restriction must also be done in case edema does not subside

After all these treatment modalities are followed the proteinuria will subsequently subside and there will be a positive response from the treatment [8].

3. Nursing care

Nurses play a vital role in caring for the patient with nephrotic syndrome and nurses must also be aware aboyut the psycholocal effects it will cause among the family members. Some intervention the nurses adopt for such patients are:

- During hospitalization the nurses must make the parents realise the importance of hospitalization and they must also adopt the method of family centered care in which the parents or the family members must take an active part in decision making and the care for the patient.
- Motoring the vital signs, weight intake output chart and detailed urine examination is the major priority of the nurses during hospitalization of such patients.
- As nephrotic syndrome ultimate drug of choice is prednisolone which is a steroids the nurses must be aware about the side effects causes by the drug and also observe for such symptoms.
- The duration of hospitalization is often a stressful environment for the children as well as the parents therefore the nurses must try to create a similar environment for the patient by promoting passive play which includes watching TV, listening story and allow maximum rest and they must also enhance the body image of the patient by allowing them to wear own clothes rather than the hospital gown.
- During discharge the nurses must educate the parents about the treatment modalities and also about the home care to be given for the patient. Parents must also be taught about how important regular follow up is as it helps in any unseen complications [9].

COMPLICATIONS

Complications of nephrotic syndrome include: hypervolemia, heart failure or related heart disease, infections, renal failure, infections in any part of the body etc [10].

PROGNOSIS

The prognosis is excellent for patients with modest altered pathology, with most going into remission after corticosteroid therapy. It is possible for 85–90% of patients to respond to steroids, which puts them at risk for toxicity, systemic infections, and other problems. The prognosis is poor for people with focal segmental glomerulosclerosis. Typically, end-stage renal illness that requires dialysis and a kidney transplant will advance [11].

ENHANCING HEALTHCARE TEAM OUTCOMES

Nephrotic syndrome can have various causes, hence a multidisciplinary team should be assembled to handle the illness. Patient education is essential when a nephrotic syndrome diagnosis has been made in order to lower morbidity. A dietary consultation should be obtained for kids who don't thrive. The nurse should also show the family how to monitor and record their daily urine output because doing so will show how the condition is developing. The best results will be achieved by using an interdisciplinary approach to the assessment, treatment, and education of the patient and family due to the rarity and complexity of this disease [12].

CONCLUSION

A collection of symptoms known as nephrotic syndrome can signify kidney disease. Swelling, exhaustion, frothy urine, low albumin levels, and elevated cholesterol are typical symptoms and indications. The child's health and nutritional management play a role in the prognosis. The patient's success depends on an interdisciplinary approach from the medical staff and the family members

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