

Pediatric Nephrotic Syndrome Fact Sheet

_____ is a student at your school and is being treated for nephrotic syndrome. His/her cause of nephrotic syndrome is _____.

Nephrotic Syndrome: What Is It?

Nephrotic syndrome is a kidney problem caused by a number of different diseases. These diseases cause the filtering units of the kidney, called glomeruli, to leak too much protein from the blood into the patient's urine. Protein loss from the body can lead to the symptoms listed below:

1. Proteinuria
2. Low serum albumin
3. Edema
4. High blood cholesterol.

What Causes Nephrotic Syndrome?

Primary Kidney Diseases

- Minimal change disease (most common cause)
- Focal segmental glomerulosclerosis
- Membranous glomerulonephritis
- Membranoproliferative glomerulonephritis
- IgA nephropathy
- Lupus

Secondary Renal Diseases

- Hereditary diseases
- Systemic vasculitis
- Drug toxicity
- Heavy metal toxicity
- Rare infectious disorders
- Some neoplasms

Kidney biopsy may be needed to make a specific diagnosis.

Management: Medications

Many medications may be used to treat nephrotic syndrome. Listed below are the most often used medicines and applicable side effects.

Corticosteroids – First Line Immunosuppressive Agents

Prednisone[®], *Deltasone*[®], *Prelone*[®], *Prednisolone*. Should be taken with food and dose slowly weaned to avoid relapse of nephrotic syndrome. Side effects include increase in appetite and weight gain, “moon face,” truncal obesity, mood swings, hyperactive behavior in young children, poor growth, striae, and increased risk of infections.

Other Immunosuppressive Agents

Tacrolimus, *Prograf*. Suppresses the immune system. Side effects are increased risk of infection, increased susceptibility to lymphoma and malignancies, nausea, vomiting, diarrhea, hypertension, hyperkalemia, seizures.

Cyclosporine, *Sandimmune*, *Neoral*. Suppresses the immune system and reduces inflammation. Side effects are increased risk of infection, tremors, hypertension, hyperkalemia, seizures, hirsutism, and gum hyperplasia.

Cellcept. Suppresses the immune system and reduces inflammation. Side effects include risk of infection, diarrhea and gastric irritation, leukopenia, and thrombocytopenia.

Cyclophosphamide, *Cytoxan*. Suppresses the immune system and decreases inflammation. Side effects are alopecia, nausea, vomiting, leukopenia, thrombocytopenia, anemia, and hemorrhagic cystitis.

Rituximab IV: Side effects are infusion allergic reactions, risk of infection, lowers B and T cells.

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Antihypertensive Medications

ACE Inhibitors - Examples: Lisinopril, Prinivil, Zestril, Enalapril, or Vasotec. Help control blood pressure and decrease protein spilling in the urine. Side effects are hypotension, headaches, dizziness, fatigue and dry cough.

ARB - Examples: Losartan, Cozaar. Helps control blood pressure and reduce protein spilling in the urine. Side effects include hypotension, dizziness, hyperkalemia, dry cough.

Diuretics

Furosemide, Lasix (loop diuretics). It may be necessary to treat moderate to severe edema. Side effects are hypokalemia and muscle spasm. The patient may require potassium supplements while on Lasix.

Metalozone. Often used with Lasix for edema not responsive to Lasix alone.

Spirolactone, Aldactone (potassium sparing diuretic). May be used with Lasix to treat hypokalemia. Administer with food.

Management: Diet

During periods of relapse (exacerbation of symptoms), may be on dietary restriction of sodium. Usual recommendation is 1000-2000 mg sodium per day.

Fluid restrictions: 750-1,000 ml per day.

Management: Special Considerations

Patients are at risk for developing peritonitis, which may cause abdominal pain, fever, vomiting or diarrhea.

Contact the Nephrologist for the following symptoms: edema, fever, abdominal pain, rapid weight gain, or lethargy.

Exposure to varicella can be serious if the child is not immune. Notify Nephrologist if suspected exposure occurs.

Patients cannot receive live vaccines while on immunosuppressive therapy. Recommended immunizations may be postponed.

ANNA Mission Statement

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Additional Information:

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