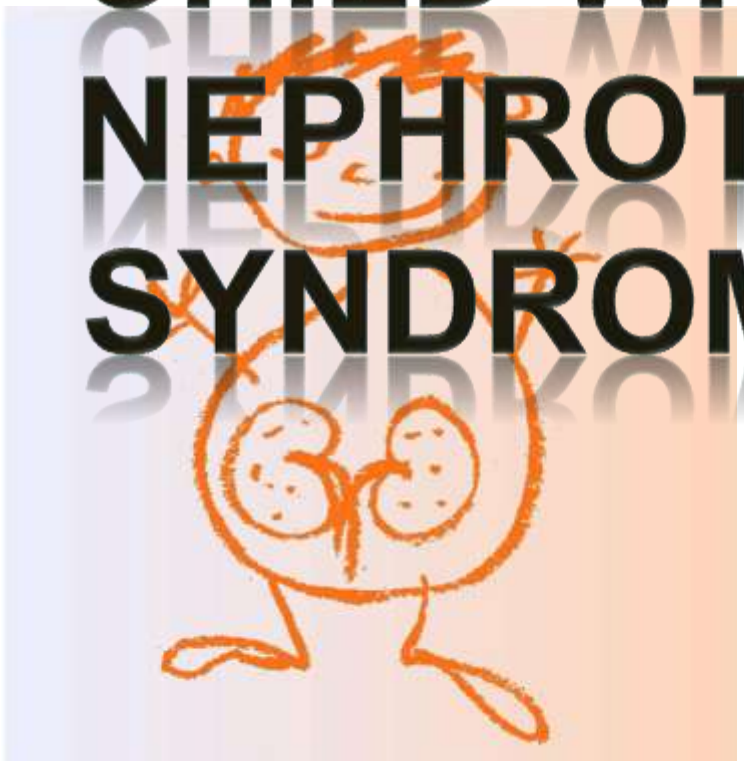
NURSING MANAGEMENT OF THE CHILD WITH NEPHROTIC SYNDROME



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- Nephrotic syndrome is one of the common cause of hospitalization among children.
- Incidence of the condition is 2 to7 per1000.
- It is more common in male child.
- Mean age of occurrence is 2 to 5 years.

- It is a symptom complex manifested by massive oedema, hypoalbuminemia, marked albuminuria and hyperlipidemia

Classification

- Congenital nephrotic syndrome
- Idiopathic or primary nephrotic syndrome
- Secondary nephrotic syndrome

Congenital nephrotic syndrome

- It is rare but serious and fatal problem usually associated with other congenital abnormalities of kidney.
- It is inherited as autosomal recessive disease.
- Severe renal insufficiency and urinary infections along with this condition result is poor prognosis.

Idiopathic or primary nephrotic syndrome

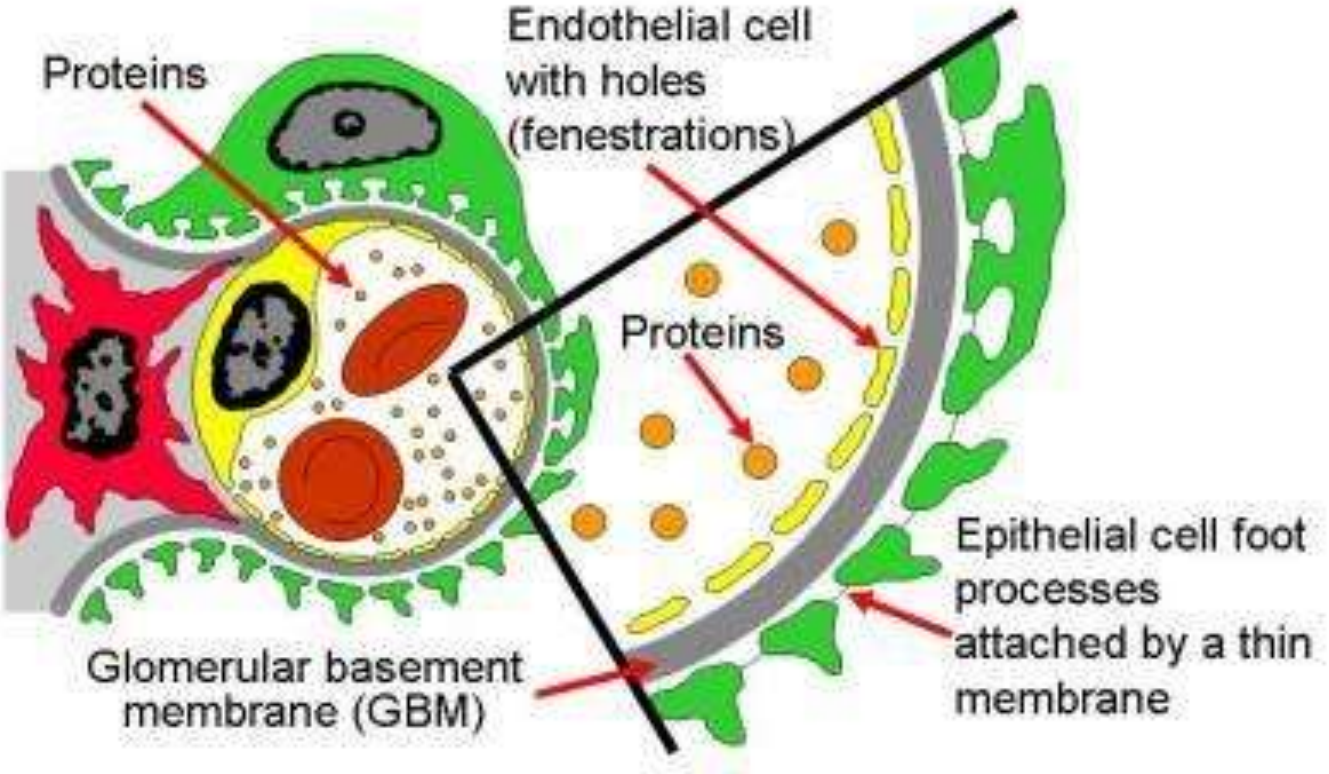
- It is the most common type(about 90%) and regarded as autoimmune phenomenon as it responds to immunosuppressive therapy.
- Subgroup of this type
  - Minimal change nephrotic syndrome(85%)
  - Proliferative nephrotic syndrome(5%)
  - Focal sclerosis nephrotic syndrome(10%)

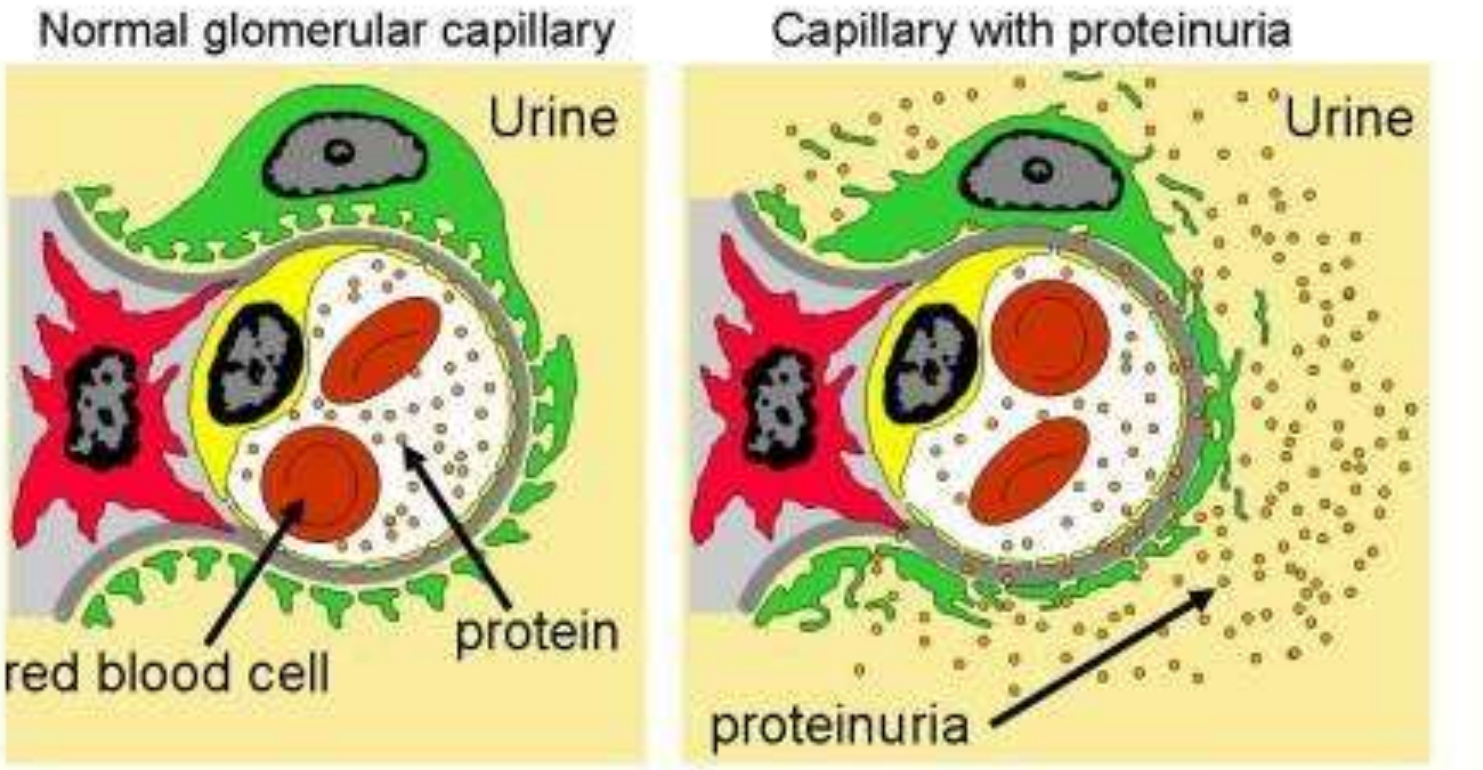
Secondary nephrotic syndrome

- It occur in children about 10% of all cases. This condition may occur due to some form of chronic glomerularnephritis or due to diabetes mellites,systimic lupus erythematosis(SLE), malaria,malignant hypertension, hepatitis ‘B’, infective endocarditis, drug toxicity, lymphomas and syphilis

pathophysiology

- The pathological changes of nephrotic syndrome may be due to loss of charge selectivity and thickening of the foot plate of the glomerular basement membrane.
- These result in increased glomerular permiability which permits the negatively charged protein, mainly albumin to pass through the capillary walls into the urine.


Proteins
Endothelial cell
with holes
(fenestrations)
Proteins
Epithelial cell foot
processes
attached by a thin
membrane
Glomerular basement
membrane (GBM)

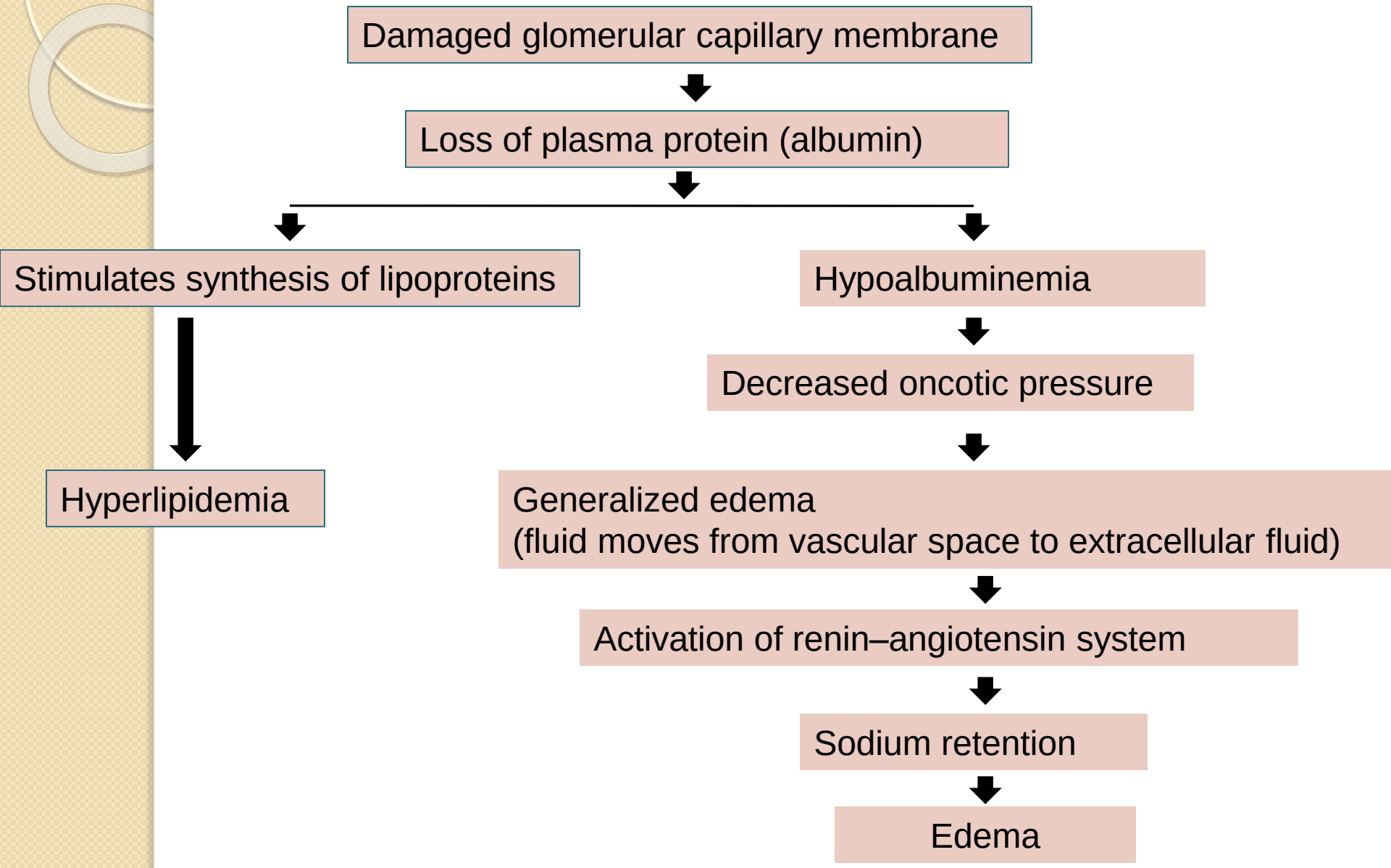

Normal glomerular capillary
Urine
protein
red blood cell
Capillary with proteinuria
Urine
proteinuria

- Excess loss of albumin result in decrease in serum albumin

- As a result of hypoalbuminemia,there is reduction in plasma oncotic pressure. Thus fluid flows from the capillaries into the interstitial space and produce oedma.

- The sift fo fluid from the plasma to the interstitial spaces the intravascular fluid volume resulting hypovolemia,which stimulate ranin angiotension axis and volume receptor to secret aldosterone and antidiuretic hormone ↑these lead to reabsorption of Na & H_2O in distal tubules resulting oedema.
- Loss of protein & immunoglobulin predisposes to infection in the child. Diminished oncotic pressure leades to hepatic lipoprotein synthesis which result in hyperlipidemia.

pathophysiology



Clinical features

- Child may present with periorbital puffiness.
- Oedema may be minimal or massive.
- Profound weight gain with in a short period.
- Dependent oedema develops in the ankle, feet, genitalia(scrotum) & hand.
- Oedmatus part soft & pits easily on pressure.
- Striae may be appear on the skin due to

Clinical feactures Cont..

- Fluid accumulate in the body space resulting ascites,pleural effusion with respiratory distress and generalized oedema
- Urine out put is reduce
- GI disturbances usually found as vomiting, loss of appetite & diarrhoea
- Other features include fatigue, lethergy, pallor & irritability, hypertension, hematuria, hepatomegaly & wasting of muscle may found in some cases.

Complications

- Ascitis
- Pleural effusion
- Generalized oedema(anasarca)
- Coagulation disorder
- Thrombosis
- Recurrent infection
- Growth retardation
- Calcium & Vitamin D deficiency
- Protein energy malnutrition

Nursing management

- Assessment and document the location and character of the patient's oedema.

- Measure blood pressure with the patient lying down and standing. Immediately report a decrease in systolic or diastolic pressure exceeding 20 mm Hg.

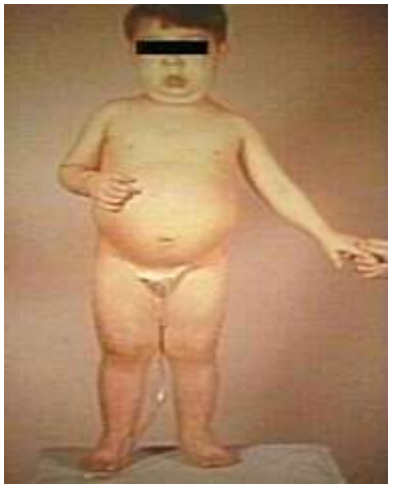
- Monitor intake and output and weigh the patient each morning after he voids and before he eats. Make sure he's wearing the same amount of clothing each time you weigh him.
- Ask the dietitian to plan a low-sodium diet with moderate amounts of protein.
- Frequently check urine for protein.
- Monitor plasma albumin and transferrin concentrations to evaluate overall nutritional status

- Provide meticulous skin care to combat the edema that usually occurs with nephrotic syndrome.
- To prevent the occurrence of thrombophlebitis, encourage activity and exercise, and provide antiembolism stockings as ordered.
- Give the patient and family reassurance and support, especially during the acute phase, when edema is severe and the patient's body image changes

Nursing process of a child with nephrotic syndrome

- Assessment
  - Oedma around eyes,feet and genitalia
  - Urine out put in 24 hrs – 200ml
  - Body weight 18kg
  - Fluid intake 250ml in 24 hrs
- Nursing diagnosis
  - Fluid volume excess related to accumulation in tissue
- Planning
  - To reduce excess amount of fluid accumulated in tissue
- Implementation
  - Providing rest, comfortable position and frequent change of position
  - Allowing diet with law salt and high protein(egg,fish,pulse)
  - Administering prescribed medications.
  - Offering potassium containing food(orange juice,banana)
  - Restricting fluid intake
  - Maintaining intake-output and body weight chart
  - Urine testing for albumin

- Assessment
  - Oedmatous skin
  - Protein loss in urine(++)
- Nursing diagnosis
  - Risk for infection due to loss of protein in urin
- Planning
  - To protect the child from infection
- Implementation
  - Examining the child for any signs of infections and recording temperature,pulse and respiratory rate
  - Monitoring blood count
  - Providing skin care,keep the skin dry and body power for soothing
  - Keeping the nails short
  - Preventing any injury of oedmatus skin
  - Teaching the mother about skin care and signs of infections and involving the mother during care of the child



- Assessment
  - Loss of appetite
  - Proteinuria
  - Lethargy
- Nursing diagnosis
  - Altered nutrition less than body requirement related to disease condition
- Planning
  - To improve nutritional status
- Implementation
  - Providing small frequent feeding with protein and carbohydrate, considering dietary restriction and child's like and dislikes
  - Providing nutritional supplementation as needed
  - Encourage child to take food

- Assessment
  - Anxiety of the parents
  - Fear of the child
- Nursing diagnosis
  - Altered family process support due to hospitalization
- Planning
  - To provide emotional child care
- Implementation
  - Allowing parental involvement in
  - Allowing play and self care as tolerated by the child
  - Encouraging interaction with other child having chronic illness
  - Answering the questions asked by the parents and allowing to express frustration

- Assessment
  - Inability to take care of the child by the parents
- Nursing diagnosis
  - Knowledge deficit about caring the child and medical management
- Planning
  - To improve knowledge about child care by health teaching
- Implementation
  - Discussing about the care after discharge from hospital, regarding rest, diet, hygiene, continuation of medications, need for medical help an follow up
  - Teaching about features of infections, signs of relapse and precautions to prevent complications

Patient teaching and home health care guide for nephrotic Syndrome

- If the patients receive immunosuppressants, teach him and family members to report even mild signs of infection.
- If the patients receive long-term corticosteroid therapy, teach him and family members to report muscle weakness and mental changes.

- To prevent gastrointestinal complications, suggest to the patient that he take steroids with an antacid or with cimetidine or ranitidine. Explain that the adverse effects of steroids subside when therapy stops, but warn the patient not to discontinue the drug without a physician's consent.

- Stress the importance of adhering to the special diet.
- If the physician prescribes antiembolism stockings for home use, show the patient how to safely apply and remove them.


THANK YOU!