ACUTE GLOMERULO NEPHRITIS

- Acute glomerulonephritis is an immune mediated inflammatory disease of the capillary loops in the renal glomeruli.
- The antigen- antibody complex deposition within the glomeruli results in glomerular injury which is manifested as hematuria, oliguria, edema and hypertension.
- Commonly seen in preschool or in early school age group of male children.

- Most cases are post infectious & have been associated with pneumococcal, streptococcal & viral infections.
- Acute post streptococcal glomerulo nephritis is the most common of the post infectious renal diseases in childhood.

Etiology

- There is initial infection of upper respiratory tract or skin, usually one to 3 weeks before the onset of symptoms.
- Frequent causative micro organism is strains of group- A beta streptococcus hemolyticus.

Pathophysiology

Streptococcal infection produces an antigen antibody complex

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Deposited in glomerular basement membrane

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Glomeruli becomes edematous

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Occlude the capillary lumen

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Results in decreased plasma filtration

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Excessive retention of water & sodium

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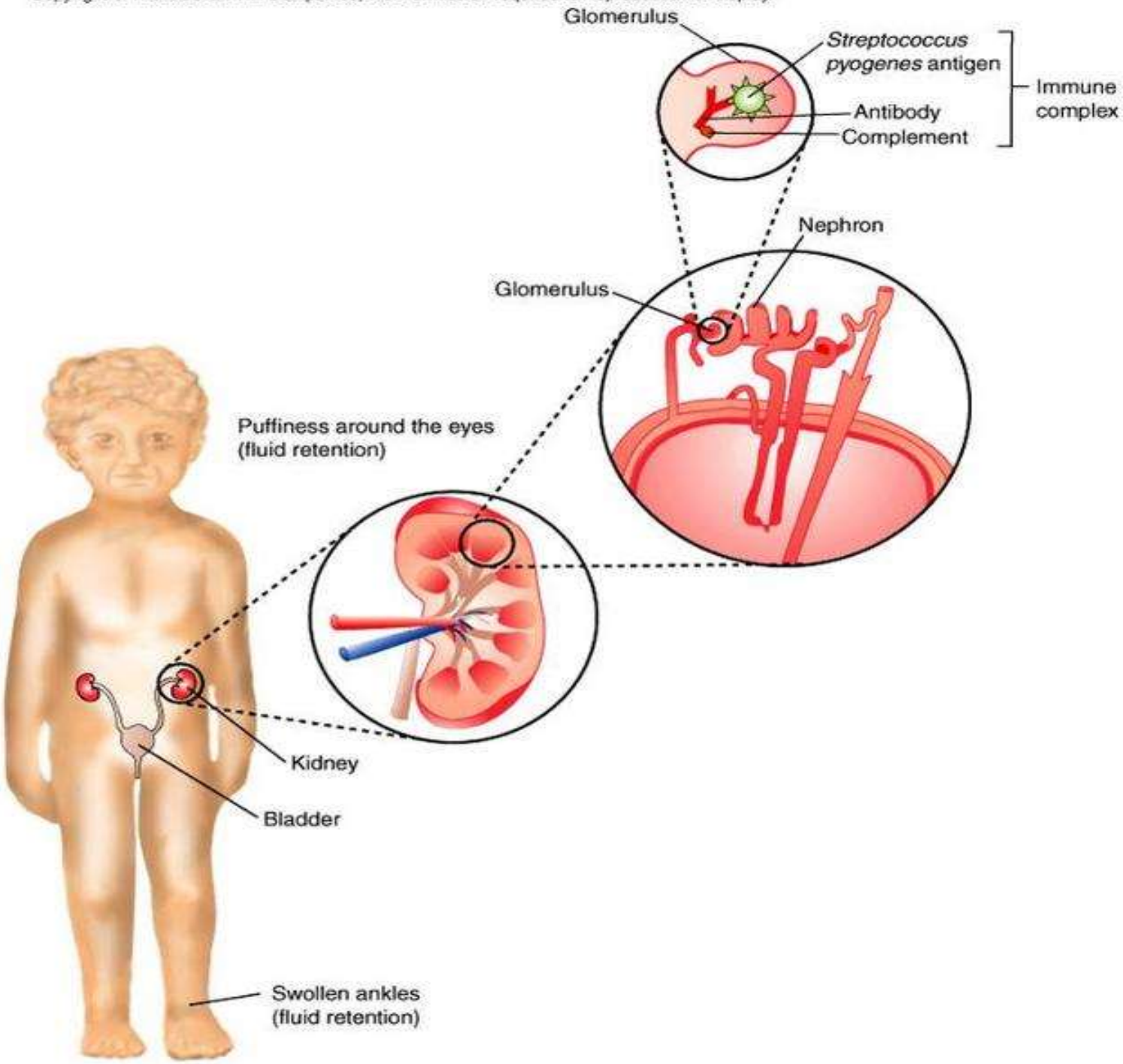
Circulatory congestion & edema

Symptoms and Signs

- Fluid retention
- Fever
- High blood pressure
- Blood and protein in urine



Clinical manifestations

- History of sore throat or pyoderma or scabies or impetigo
- Decreased output
- Blood or brown color urine
- Edema: periorbital puffiness in morning
- Pedal edema & generalized edema
- Rapid weight gain due to edema
- Fever, headache, nausea, vomiting, anorexia, abdominal pain & malaise.
- HTN in more than 50 % cases

Diagnostic evaluation

- History
- Physical examination
- Urinalysis
- Blood examination: urea, creatinine, ESR, decreased Hb, hyponatremia & hyperkalemia.
- Throat swab culture.

Management

- Children with normal BP & satisfactory urine output can be treated at home.
- Those with edema, HTN, gross hematuria, oliguria should be hospitalized.
- Moderate sodium restriction & fluid restriction
- Foods with potassium are restricted for the period of oliguria.
- Regular vitals monitoring
- Maintenance of I/O

- Checking weight daily
- Fluid & electrolyte imbalance has to be managed appropriately.
- Dialysis may be needed in renal failure & severe electrolyte imbalance.
- Antihypertensives
- Antibiotic therapy 7 to 10 days.

Nursing management

- Impaired urinary elimination related to glomerular dysfunction
- Fluid volume excess related to altered renal function
- Activity intolerance related to edema
- Altered skin integrity related to edema.
- Fear & anxiety related to disease processes
- Knowledge deficit regarding care of child with renal disease.