EDEMA

What is edema?

- Edema may be defined as the abnormal swelling of tissues from the accumulation of fluid in the extravascular space. In children presenting for medical care, this fluid may appear as generalized or localized swelling. When significant edema is present, collections of fluid may be visualized as pericardial or pleural effusions or as ascites. When edema is profound and generalized, the patient is described as having anasarca. However, the initial presentation of generalized edema may be subtle.
- Often the swelling is most prominent in the dependent portions of the extremities or lower back or in distensible tissues such as the eyelids, scrotum, or labia. Obtaining a careful history and completing a physical examination will help to identify these patients and may lead to a definitive diagnosis

What are the causes?

- Idiopathic nephrotic syndrome, is the most common cause of generalized edema

Causes of Edema

Decreased Oncotic Pressure
Protein loss
Protein-losing enteropathy
Nephrotic syndrome
Cystic fibrosis
Reduced albumin synthesis
Liver disease
Malnutrition
Increased Hydrostatic Pressure
Increased blood volume from sodium retention
Congestive heart failure
Primary renal sodium retention
Acute glomerulonephritis
Henoch-Schönlein purpura
Premenstrual edema or edema of pregnancy
Venous obstruction
Constrictive pericarditis

Other

Hypothyroidism (myxedema)
vasculitis

What are the clinical features?

- Renal- age group-puffiness of face,frothing of urine,oliguria,hematuria, swelling of limbs, genital regions
- Generalized edema, with an otherwise normal exam, occurs most commonly in patients with renal disease, particularly nephrotic syndrome. The idiopathic nephrotic syndrome is more common in boys than in girls (2 : 1) and most commonly appears between the ages of 2 and 6 yr. Children usually present with mild edema, which is initially noted around the eyes and in the lower extremities. Nephrotic syndrome can initially be misdiagnosed as an allergic disorder because of the periorbital swelling that decreases throughout the day. With time, the edema becomes generalized, with the development of ascites, pleural effusions, and genital edema. Anorexia, irritability, abdominal pain, and diarrhea are common. Important features of minimal change idiopathic nephrotic syndrome are the absence of hypertension and gross hematuria (previously termed *nephritic features*).
- Poststreptococcal GN is most common in children aged 5-12 yr and uncommon before the age of 3 yr. The typical patient develops an acute nephritic syndrome 1-2 wk after an antecedent streptococcal pharyngitis or 3-6 wk after a streptococcal pyodermaTea- or cola-colored urine, facial or body edema, hypertension, and oliguria are classic symptoms of **acute nephritic syndrome**.
- Diseases commonly manifesting as acute nephritic syndrome include postinfectious glomerulonephritis, immunoglobulin A (IgA) nephropathy, membranoproliferative glomerulonephritis, Henoch-Schönlein purpura (HSP) nephritis, systemic lupus erythematosus (SLE) nephritis
- In contrast to patients with nephrotic syndrome and edema from low oncotic pressure, edema associated with acute renal failure results from the hypervolemic state. The initial diagnosis of nephrotic syndrome is based on significant proteinuria (3+ or 4+ or >300 mg/dL on a urinalysis). The presence or absence of urine red blood cells, white blood cells, or casts in the urine, along with further laboratory testing including chemistries, albumin and total protein, and complement and triglyceride levels may help to confirm the diagnosis. Various factors, including the presence of hypertension or significant fluid collections in the pleural or peritoneal spaces, must be considered to determine the appropriate initial management of these patients.
- Cardiac- pre existing chd symptoms- recurrent respiratory infections,prolonged feedibg time,suck cry suck cycle,effort intolerance, easy fatiguability,joint symptoms. Achd symptoms early in life.rheumatic 5-15 yrs of life
- Patients with CHF, pericarditis, myocarditis, or cardiomyopathy may present with edema, but these children will usually have additional signs and symptoms. An edematous child presenting with a gallop, tachycardia, tachypnea, inspiratory crackles, or hepatomegaly should be evaluated for cardiac disease
- Malnutrition- diluted complimentary feeds, inadequate calorie and protein intake,diarrhoea,measles -presents in 2 nd yr or late ist year of life
- Liver disease- jaundice in early infancy, cholestasis,liver failure,bleeding,abd distension Other causes are rare