

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



Common Medical Problems in Geriatrics

By

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Introduction



*** Ageing can be defined as a progressive accumulation of random defects through life result in functional impairment of tissues and organs.**

*** Geriatric medicine is concerned particularly with frail older people with markedly reduced physiological capacity**



- * Geriatrics frequently have multiple comorbidities, and acute illness that mostly present in non-specific ways, such as confusion, falls, or loss of mobility.**
- * These patients are prone to adverse drug reactions, partly because of polypharmacy and partly because of age-related changes in responses to drugs and their elimination.**



Changes with ageing

CNS

- Neuronal loss
- Cochlear degeneration
- Increased lens rigidity
- Lens opacification
- Anterior horn cell loss
- Dorsal column loss
- Slowed reaction times

Respiratory system

- Reduced lung elasticity and alveolar support
- Increased chest wall rigidity
- Increased V/Q mismatch
- Reduced cough and ciliary action

Cardiovascular system

- Reduced maximum heart rate
- Dilatation of aorta
- Reduced elasticity of conduit/capacitance vessels
- Reduced number of pacing myocytes in sinoatrial node

Endocrine system

- Deterioration in pancreatic β -cell function

Renal system

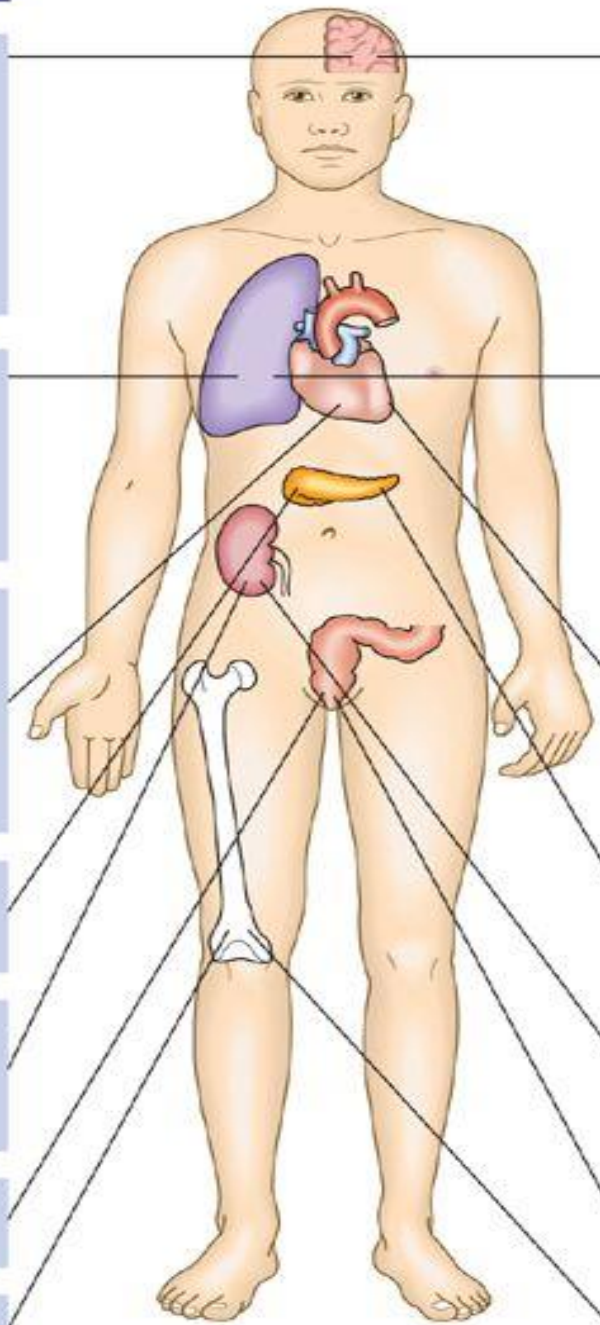
- Loss of nephrons
- Reduced glomerular filtration rate
- Reduced tubular function

Gastrointestinal system

- Reduced motility

Bones

- Reduced bone mineral density



Clinical consequences

CNS

- Increased risk of delirium
- Presbycusis/high-tone hearing loss
- Presbyopia/abnormal near vision
- Cataract
- Muscle weakness and wasting
- Reduced position and vibration sense
- Increased risk of falls

Respiratory system

- Reduced vital capacity and peak expiratory flow
- Increased residual volume
- Reduced inspiratory reserve volume
- Reduced arterial oxygen saturation
- Increased risk of infection

Cardiovascular system

- Reduced exercise tolerance
- Widened aortic arch on X-ray
- Widened pulse pressure
- Increased risk of postural hypotension
- Increased risk of atrial fibrillation

Endocrine system

- Increased risk of impaired glucose tolerance

Renal system

- Impaired fluid balance
- Increased risk of dehydration/overload
- Impaired drug metabolism and excretion

Gastrointestinal system

- Constipation

Bones

- Increased risk of osteoporosis



Frailty vs Disability

- * **Frailty means the loss of ability to withstand minor stresses because the reserves in function of several organ systems are severely reduced. So; even a trivial event may result in organ failure and death.**
- * **Disability means established loss of function, as in fracture or stroke.**
- * **So; frailty can be defined as vulnerability to disability.**



Assessment of Frailty

* Frailty can be assessed using the following parameters:

1. Cardiorespiratory Function
2. Cognitive Function
3. Integrative CNS Function (Gait and Balance)
4. Nutritional Status
5. Musculoskeletal function



Common Medical Problems



Falls

- * Falls is one of the common health problem in geriatrics specially in frail individuals.**
- * It is one of the atypical presentations of acute illness like stroke or myocardial infarction**
- * Osteoporosis risk factors should also be sought and DEXA (dual energy X-ray absorptiometry) bone density scanning considered in all older patients who have recurrent falls.**

Main causes

- * **Muscle weakness**
- * **History of falls**
- * **Gait or balance abnormality**
- * **Use of a walking aid**
- * **Visual impairment**
- * **Arthritis**
- * **Depression**
- * **Cognitive impairment**
- * **Age over 80 years**
- * **Psychotropic medication**



Interventions to prevent falls

- * **Individualised or group exercise training**
- * **Rationalisation of medication, especially psychotropic drugs**
- * **Correction of visual impairment, particularly cataract extraction**
- * **Home environmental hazard assessment and safety education**
- * **Treatment of cardiovascular disorders, including carotid sinus syndrome and postural hypotension**



Postural Hypotension

Major cause of repeated falls, can be treated by:

- * Correction of dehydration**
- * Head-up tilt of the bed**
- * Support stockings**
- * NSAIDs**
- * Fludrocortisone**
- * Midodrine**



Osteoporosis

- * If osteoporosis is diagnosed, it should be treated using:
 - Calcium
 - Vitamin D
 - Bisphosphonates.

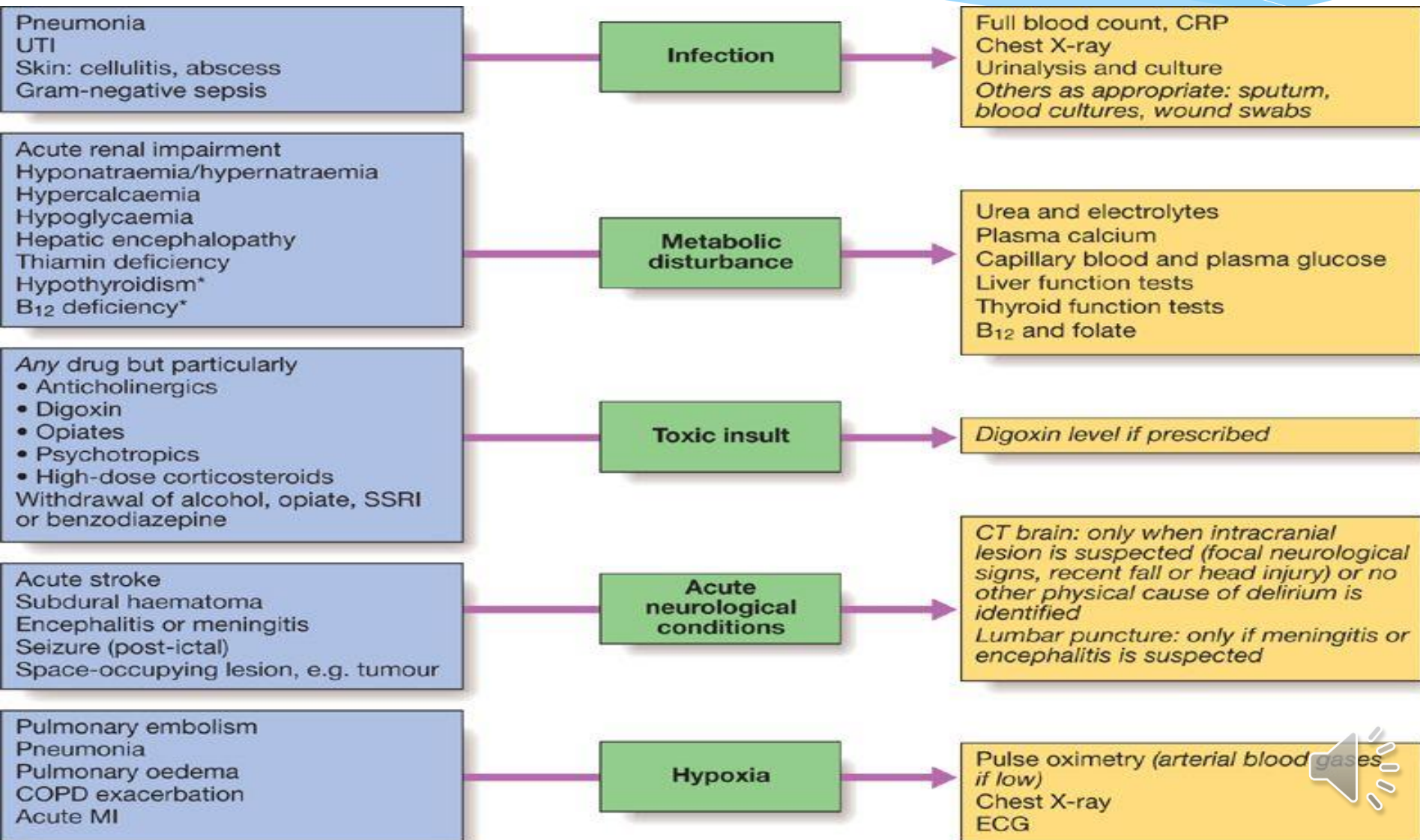


Delirium

- * **Delirium is acute loss of consciousness associated with cognition changes.**
- * **Predisposing factors are:**
 - **Dementia**
 - **Admission with infection or dehydration**
 - **Surgery**
 - **Alcohol misuse**
 - **Severe physical illness**
 - **Frailty**
 - **Visual impairment**
 - **Polypharmacy**
 - **Renal impairment**



Main Causes of Delirium



Urin Incontinence

- * One of the distressing problems in old age
- * May be predisposed by
 - Diuretic therapy
 - Hyperglycemia
 - Hypercalcaemia
 - Delirium
 - Uterine prolapse in females
 - Sever constipation



Can be minimized by

- * **Stop or modify diuretic dose**
- * **Pelvic floor training**
- * **Control of diabetes**
- * **Avoid alcohol intake**
- * **Minimize coffee, tea and cola**
- * **Treatment of the contributing factor**
- * **Catheterization**
- * **Urology Consultation**



Urinary incontinence

Address contributory factors:

- UTI
- Severe constipation
- Drugs, e.g. diuretics
- Hyperglycaemia
- Hypercalcaemia
- Restricted mobility
- Acute confusion

If still incontinent:

- Establish the pattern of urinary loss (diary is helpful)
- Measure residual urine volume (by ultrasound)
- Assess for vaginal prolapse and atrophic vaginitis (women)
- Assess prostate by rectal examination (men)

Urge

Bladder retraining
Antimuscarinic drugs, e.g. solifenacin, tolterodine

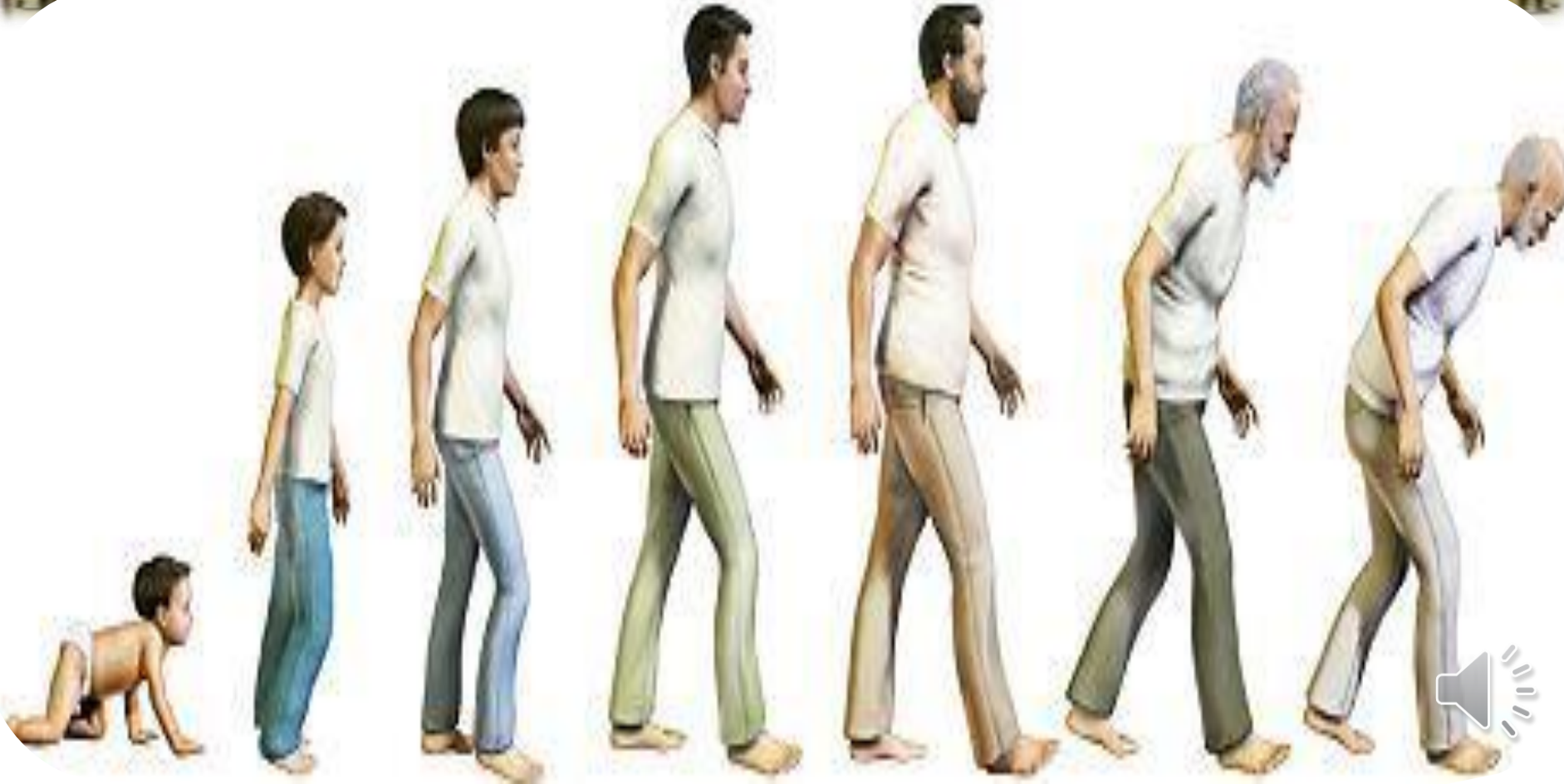
Stress

Pelvic floor muscle training
Surgical intervention if unsuccessful

Overflow

(i.e. residual volume > 100 mL)
Surgical relief of obstruction (e.g. prostatectomy)
Intermittent catheterisation if no obstruction

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فِي الْخَلْقِ أَفَلَا
يَعْقِلُونَ (يس 68)





Liver Cirrhosis

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Liver Functions

Removes potentially toxic byproducts of certain medications.

Prevents shortages of nutrients by storing vitamins, minerals and sugar.

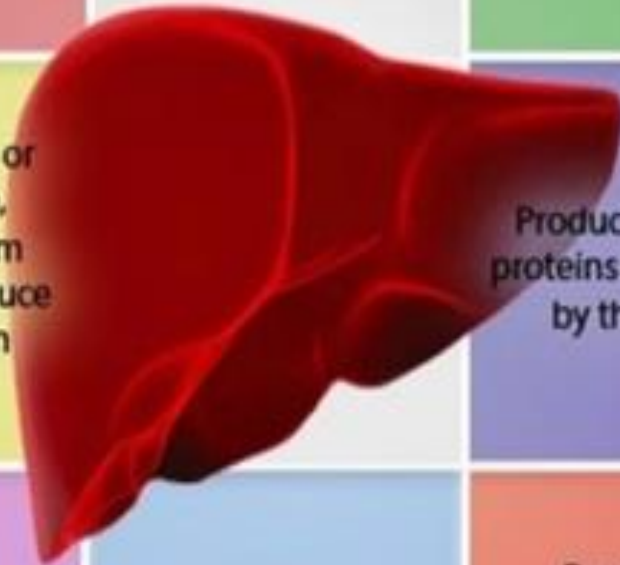
Metabolizes, or breaks down, nutrients from food to produce energy, when needed.

Produces most proteins needed by the body.

Helps your body fight infection by removing bacteria from the blood.

Produces most of the substances that regulate blood clotting.

Produces bile, a compound needed to digest fat and to absorb vitamins A, D, E and K.



Function of liver



Definition

- * Cirrhosis is the end point of any chronic liver disease.
- * In Egypt , the most important causes of cirrhosis are :
 - Chronic hepatitis C
 - Chronic hepatitis B
 - Cardiac cirrhosis.
 - NAFLD/NASH
 - Alcohol.
- * It leads to liver cell failure and liver cancer.
- * Liver transplantation is the curative treatment.



History of

- * Liver Disease
- * HCV and/ or HBV, or its TTT
- * Presenting Problems of liver diseases
- * Hepatotoxic agents, intake or exposure
- * Special habits like Smoking & Alcoholism
- * Recent Surgery even minor procedures like tattooing
- * Comorbidities like Diabetes, Heart Failure, Renal Failure, and Haemolytic Anaemia
- * Family history of liver diseases
- * Bilharziasis or Anti- Bilharzial TTT (Injections).



Presenting Problems

Bleeding tendency

Haematemesis , Melena

Rectal Bleeding

Jaundice

Abdominal Swelling, and/or Abdominal Pain

Abnormal Behavior,

Disturbed Sleep rhythm,

Disturbed Conscious level.

Sexual Dysfunction

Lower Limb Swelling

Fatigue and General illness

Accidentally Discovered





EXAMINATIONS



Neurologic

Hepatic encephalopathy
Peripheral neuropathy
Asterixis

Integumentary

Jaundice
Spider angioma
Palmar erythema
Purpura
Petechiae
Caput medusae

Gastrointestinal

Anorexia
Dyspepsia
Nausea, vomiting
Change in bowel habits
Dull abdominal pain
Fetor hepaticus
Esophageal and gastric varices
Hematemesis
Hemorrhoidal varices
Congestive gastritis

Hematologic

Anemia
Thrombocytopenia
Leukopenia
Coagulation disorders
Splenomegaly

Metabolic

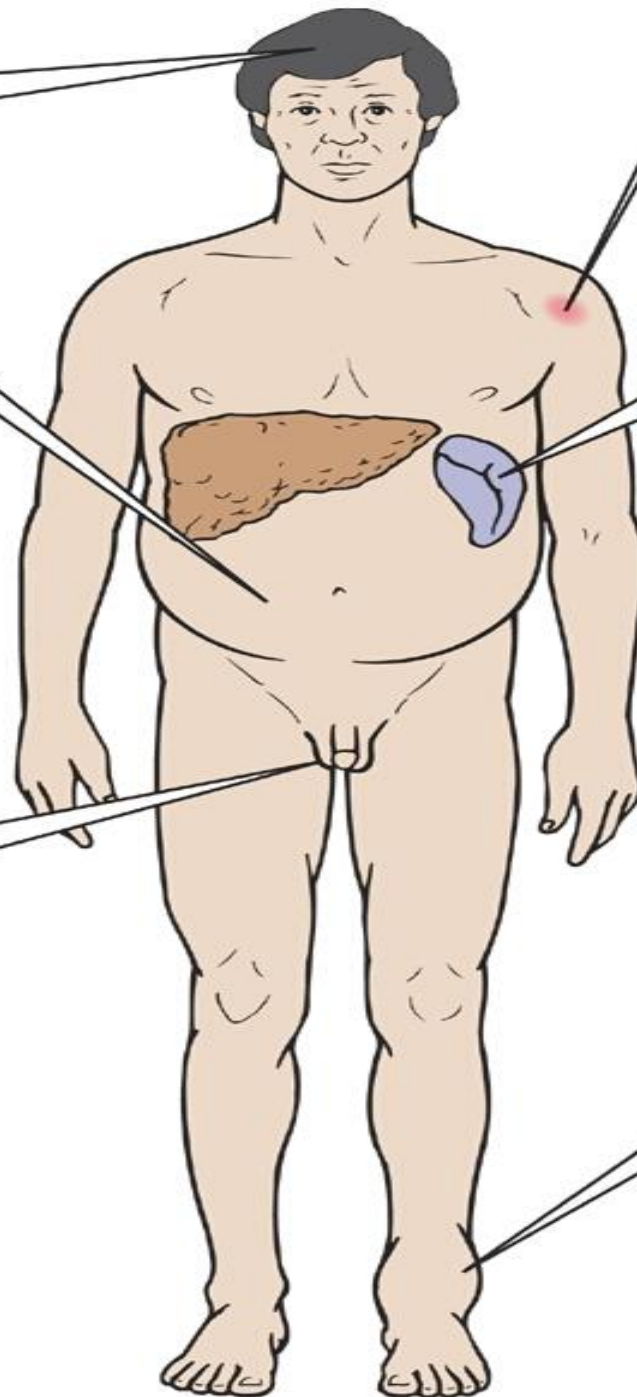
Potassium deficiency
Hyponatremia
Hypoalbuminemia

Reproductive

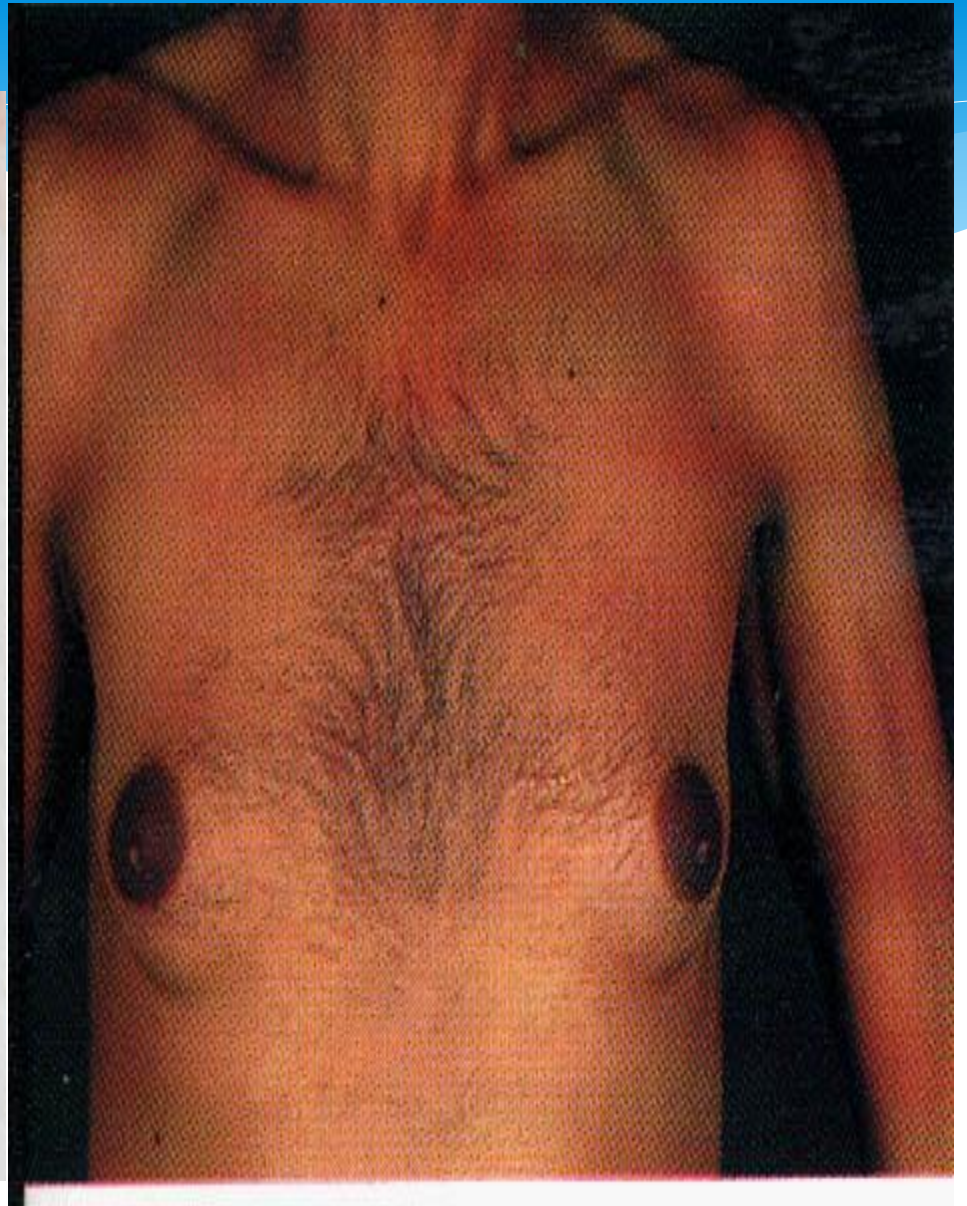
Amenorrhea
Testicular atrophy
Gynecomastia (male)
Impotence

Cardiovascular

Fluid retention
Peripheral edema
Ascites







Complications of Liver Cirrhosis

- * Oesophageal Varices
- * Ascities
- * Splenomegaly
- * Hepatic Encephalopathy
- * Liver Cancer



Important Notes

- * Musculoskeletal and rheumatological symptoms are common in patient with liver diseases as an extrahepatic manifestations.
- * Patient with liver disease has a progressive decrease of muscle mass and bone density.
- * Well balanced diet plays a crucial role in the care of such patient.
- * Many drugs, supplements and herbals have a hepatotoxic potential that sometimes results in fatal outcome.



Thank
you!

