BI LHARZIASES (Schistosomiasis)

- **Definition:** Chronic granuloma caused by bilharzial infection. Two species are endemic in Egypt:
  (1) ***Schistosomiasis haematobium:*** Affects the uro-genital system.
  (2) ***Schistosomjasjs mansoni:*** Affects the digestive system. .
  Generat Pathology:
  (1) **Cercaria:** Causes acute dermatitis in the form of red rash.
  (2) ***Living worms:*** Ingest the red cells.
  (3) ***Dead worms****:* Antigens released from the dead worms cause severe allergic inflammation rich with eosinophils.
  (3) **Ova:** cause granulomatous inflammation composed of macrophages, lymphocytes, plasma cells, eosinophils.
  Ova from the gastrointestinal tract may form emboli in the portal blood and reach the liver. Ova from the urinary system may form emboli in systemic venous blood and reach the lung.

- **BILHARZIASIS OF THE URINARY BLADDER**
  Caused by schistosoma hematobium. The ova trapped in the submucosa of bladder wall produce bilharzial granuloma.
  pathological Features:
- **Gross:**
  (1) Sandy patches: raised patches called sandy patches.
  (2) bilharzial ulcers: The formation of the ulcers are due to:
  (a) Passage of the ova through the mucosa.
  (b) Allergic necrosis and falling of the mucosa.
  (c) Falling of bilharzial polyp.
  (3) Bilharzial polyps: large mass of bilharzial granuloma which elevates the covering mucosa and submucosa forming a polyp.

- **Microscopical picture:** (Epithelial Changes)
  (1) Hyperplasia
  (b) Brunn ‘s nests*:* The hyperplastic epithelium dips in the submucosa forming round nests of transitional epithelium cells.
  (c) Cystitis cystica: Hydropic degeneration in the central cells of Brunn’r nest results in a cyst lined by transitional epithelium.
  (d) Cystitis glandularis: Similar to cystitis cystica but the lining transitional epithelium undergoes metaplasia to columnar epithelium. The lesion is precancerous.
  (e) Squamous metaplasi*:* The lesion is precancerous

- **Complications of Bilharzial Cystitis:**
  (1) Haematuria causes microcytic hypochromic anaemia. -
  (2) Bacterial infection of the bladder
  (3) Ova and epithelial debris form nuclei for stone.
  (4) Fibrosis at the bladder neck causes hypertrophy, dilatation and trabeculation of the bladder wall, hydroureter , hydronephrosis, pyoureter and pyonephrosis.
  (5) renal faileur
  (5) squamous cell carcinoma of the urinary bladder.

- **Intestinal bilharziasis**
  Caused by schistosoma mansoni.
  pathological Features:
  Gross: the same as urinary bilharziasis
  Microscopical picture: The ova trapped in the intestinal wall produce bilharzial granuloma.

  Complication of Intestinal Bilharziasis:
  (1) Bilharzial dysentery.
  (2) Intestinal haemorrhage causes microcytic hypochromic anaemia**.**
  (3) Chronic intestinal obstruction due to fibrotic stenosis or the presence of large polypi.
  (4) Bilharzial hepatic fibrosis (the most serious complication).

- **BILHARZIASIS OF THE LIVER (Bilharzial hepatic Fibrosis) :**
  the ova pass with the portal blood to the liver ,trapped in portal tract ,form granuloma which heal by fibrosis
  Effects of Bilharzial Hepatic Fibrosis:
  (1) Portal hypertension causing chronic venous congestion of the gastrointestinal tract and the spleen (Egyptian splenomegaly).
  (2) ascites.
  (3) opening of the anastomosis between the portal and systemic circulation causing oesophageal varics, piles and caput medusae. Severe haematemesis from oesophageal varics is the causes of death.
- **N.B. intestinal bilharziasis has no relation to carcinoma.**