

Diabetic foot
Marjolin ulcer
Rodent ulcer
sinuses & fistulae

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Diabetic ulcer (Diabetic foot)

Causes

- Increased glucose in the tissue precipitates infection.
- Diabetic microangiopathy, which affects microcirculation.
- Associated atherosclerosis.
- Increased glycosylated haemoglobin decreases the oxygen dissociation.
- Increased glycosylated tissue protein decreases the oxygen utilization.
- Diabetic neuropathy involving all sensory, motor and autonomous components.

- *Sites:*
 - Foot-plantar aspect—is the commonest site.
 - Leg.
 - Upper limb, back, scrotum, perineum.
 - Diabetic ulcer may be associated with ischaemia.
 - Ulcer is usually spreading and deep.
- *Investigations:*
 - Blood sugar both random and fasting.
 - Urine ketone bodies.
 - Discharge for culture and sensitivity.
 - X-ray of the part to see osteomyelitis.
 - Arterial Doppler of the limb.
- *Treatment:*
 - Control of diabetes using **insulin**.
 - Antibiotics.
 - Nutritional supplements.
 - Regular cleaning, debridement, dressing.
 - **Once granulates, the ulcer is covered with skin graft or flap.**

- Toe/foot/leg amputation.
- Care of foot.

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Marjolin's ulcer (French surgeon, Jean-Nicolas Marjolin, 1828):

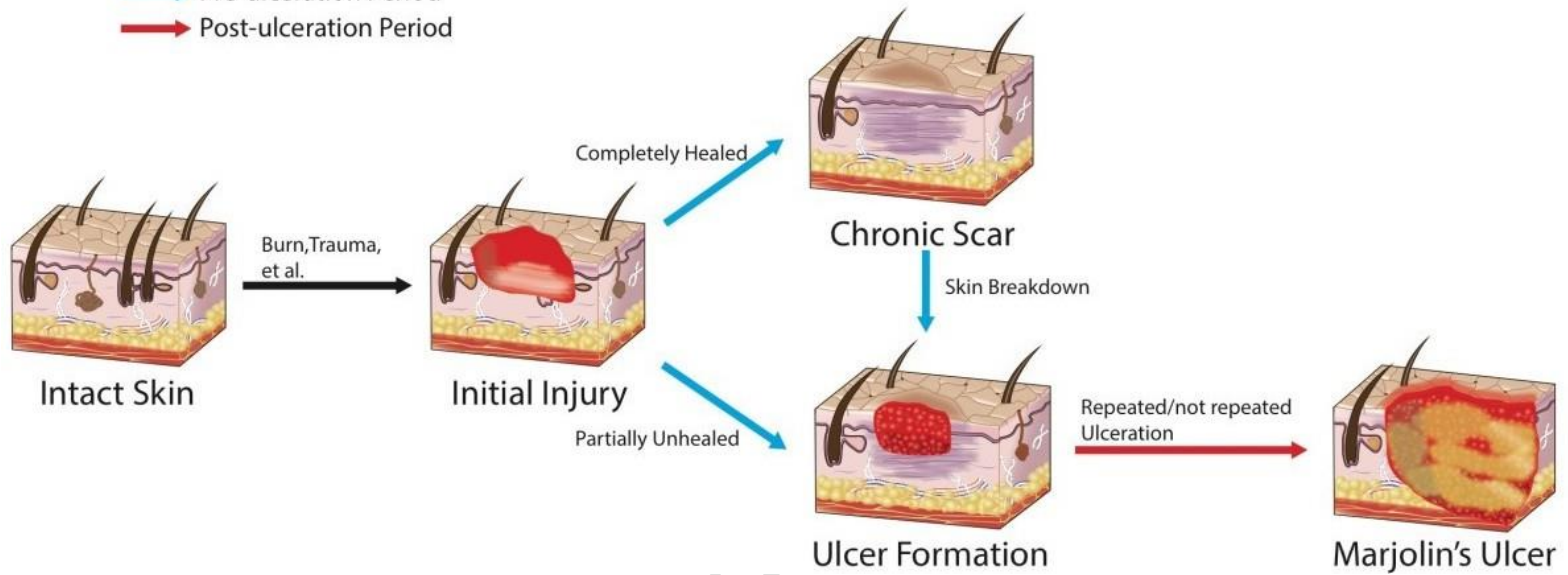
- It is slow growing locally malignant lesion, a very well differentiated squamous cell carcinoma occurring in an unstable scar of long duration. (Unstable scar is one where “ there is frequent loss of covering of skin over the scar”, If more than one scar is considered unstable).
- It is commonly seen in :
 1. chronic venous ulcer scar.
 2. Often it is observed in burns scar.
 3. scar of previous snake bite.
 4. Occasionally in sinus/fistula.
- Lesion is ulcerative/proliferative.



- **Characters of the SCC ulcer:**

- A. Edge may be everted or may not be.
- B. It is painless, as scar does not contain nerve fibrils.
- C. It does not spread into lymphatics as scar is devoid of lymphatics.
- D. Induration is felt at the edge and base.
- E. There is marked fibrosis also.
- Once lesion spreads into adjacent normal skin, it can spread into regional lymph nodes behaving like squamous cell carcinoma.
- Managed by wedge biopsy and wide local excision and grafting.

→ Pre-ulceration Period
→ Post-ulceration Period



RODENT ULCER : It is ulcerative form of basal cell carcinoma.

- **Features of rodent ulcer :**

- A. Ulcer shows central area of dry scab with peripheral raised active and beaded (pearly white) edge.
- B. Often floor is pigmented.
- C. It erodes into deeper plane like soft tissues, cartilages and bones hence the name—rodent ulcer.
- D. As lymphatics are blocked early in the disease by large tumour cells, it does not spread to regional lymph nodes.
- E. Blood spread is absent.
- F. It is only locally malignant.



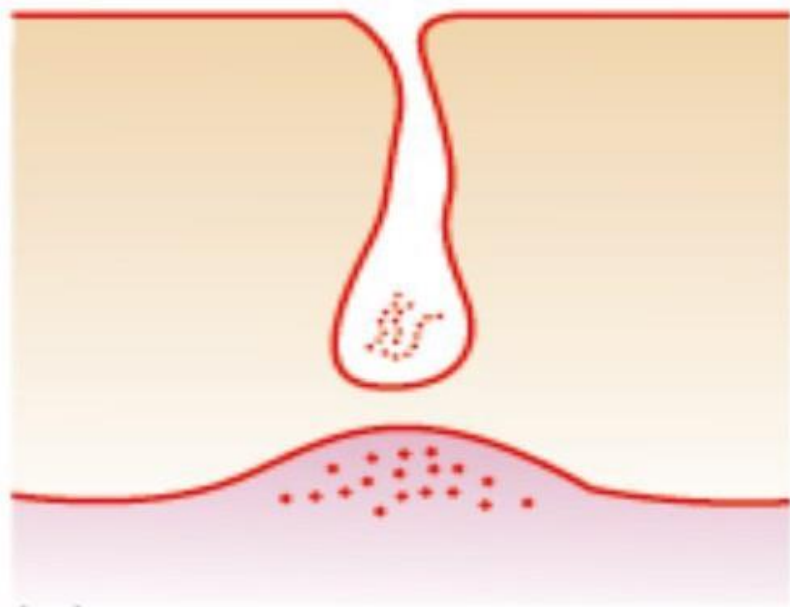
- **Sites:**

- A. It is common in face (usually situated above the line joining angle of mouth and tragus).
- B. Rarely can it occur over tibia, external genitalia, mucocutaneous junction.
- C. It does not occur in mucosa.

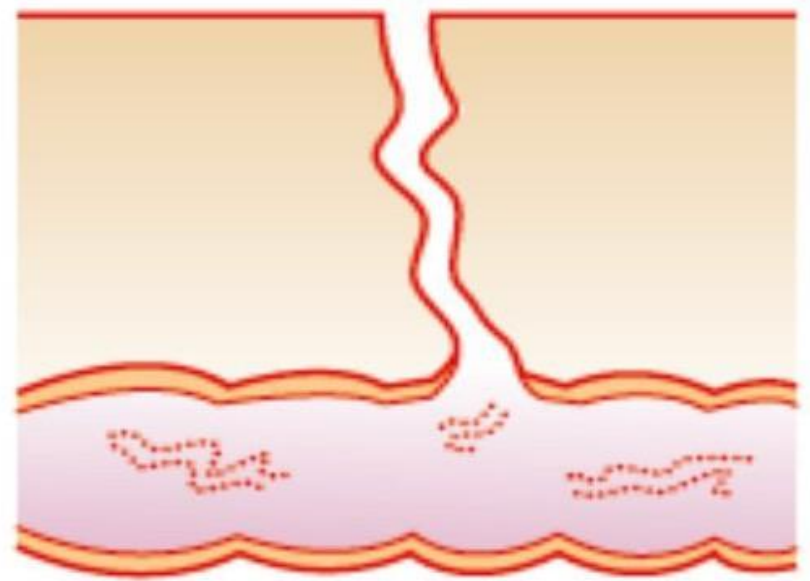
- Treatment.: Excision with skin grafting
- If too big : Radiotherapy.

Sinus and Fistula

- **SINUS:** It is a blind track lined by granulation tissue leading from an epithelial surface down into the tissues. Sinus means “hollow” or “a bay” (Latin).
- **Causes:**
- **Congenital:** Pre-auricular sinus.
- **Acquired:** Tuberculosis , Actinomycosis, pilonidal sinus, chronic osteomyelitis, median mental sinus.
- **Note:** Commonest cause of the sinus in the neck is tuberculosis. Commonly it is tuberculous lymphadenitis. **It shows yellowish cheesy discharge with bluish margin , Usually tuberculous sinus/ulcer do not show any induration**

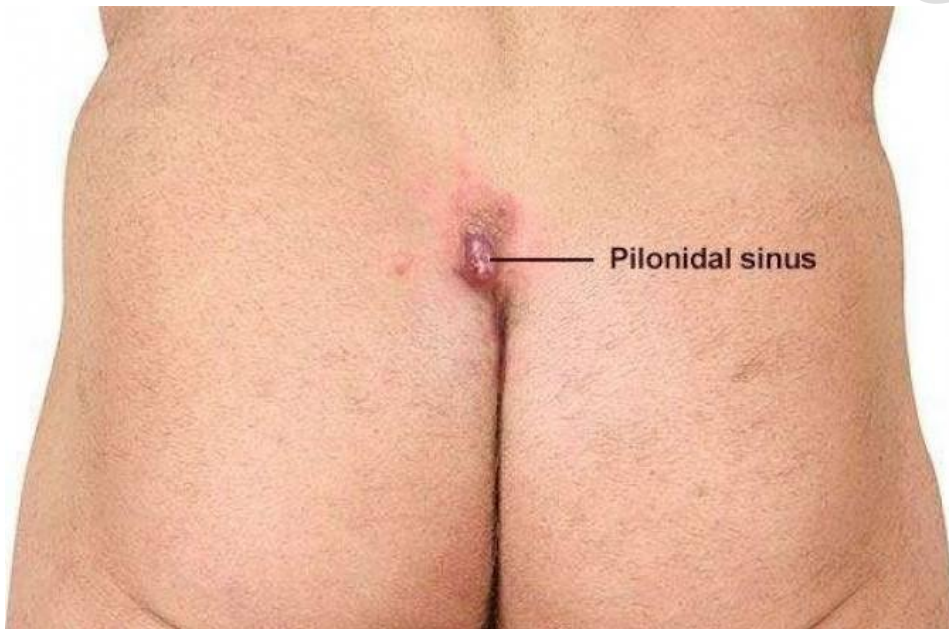
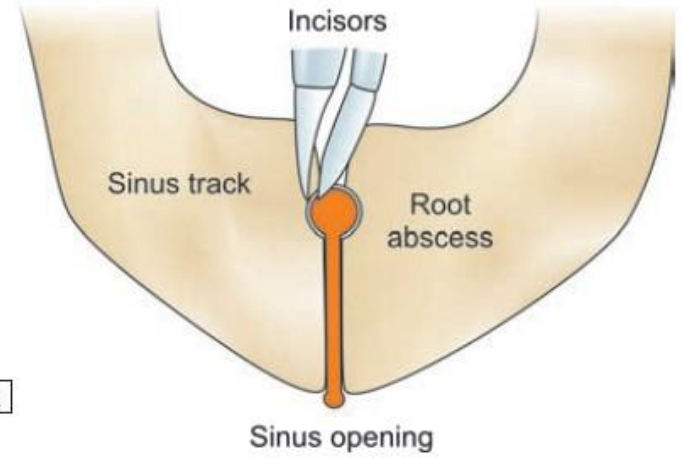
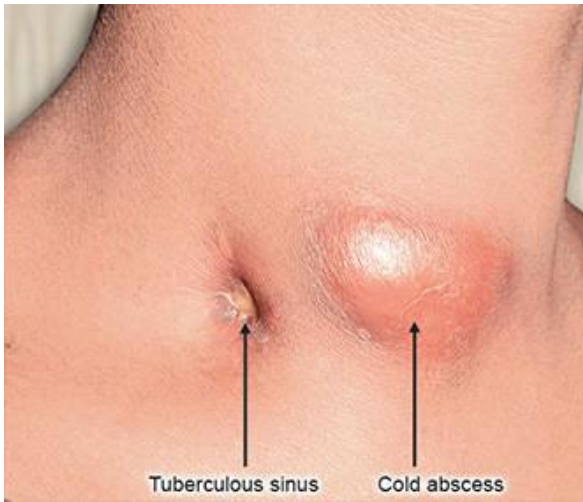


(a)



(b)

Figure 42.4 A sinus (a) and a fistula (b); both usually arise from a preceding abscess. (a) This is a blind track, in this case a pilonidal abscess. (b) This is a track connecting two epithelium-lined surfaces, in this case a colocutaneous fistula from colon to skin.

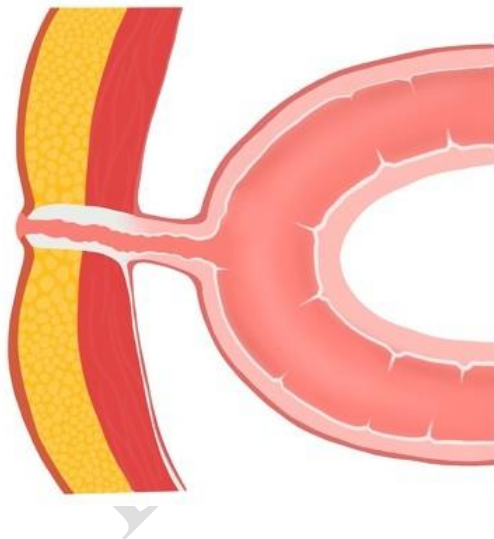


- **FISTULA**: It is an abnormal communication between the lumen of one viscus to the lumen of another (internal) or communication of one hollow viscus with the body surface (external fistula) or communication between the vessels. Fistula means “a pipe or tube”.

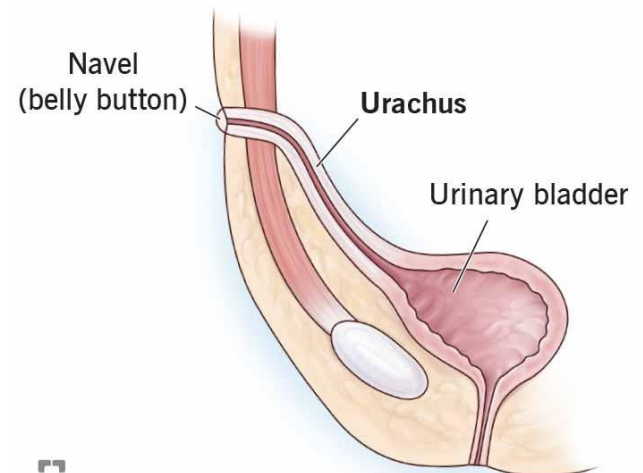
Causes

- **Congenital:**
 - Branchial fistula.
 - Thyroglossal fistula.
 - Tracheo-oesophageal fistula.
 - Congenital AV fistula.
 - Umbilical fistula (patent vitello-intestinal duct , patent urachus).

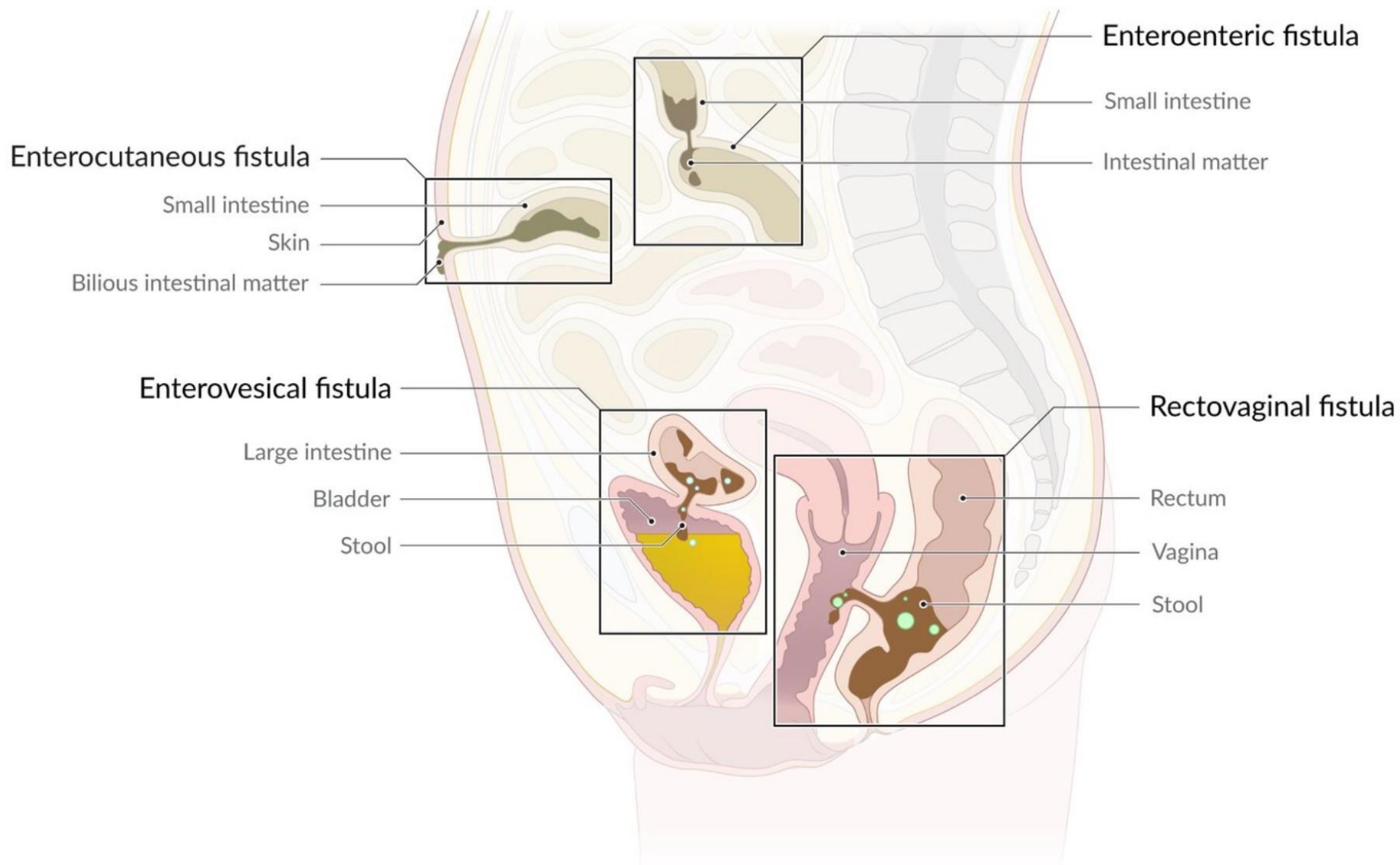
Omphalome:



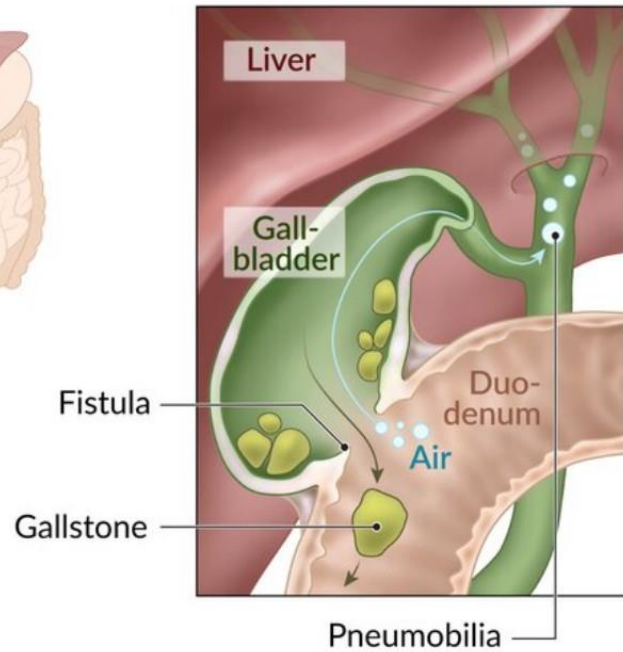
Urachus



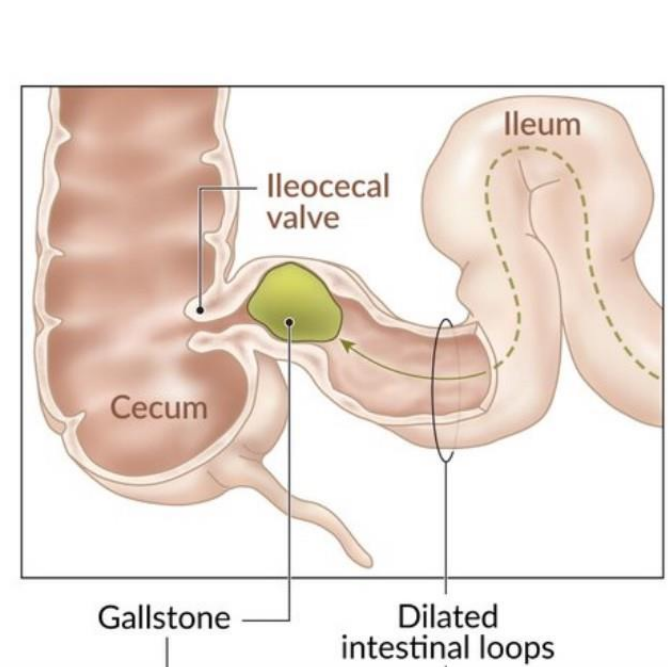
- **Acquired:**
- **Traumatic:**
 - Following surgery—intestinal fistulas (biliary, pancreatic, faecal).
 - Following instrumental delivery or difficult labour (vesicovaginal fistula, rectovaginal fistula, urethrovaginal fistula).
- **Inflammatory:** intestinal actinomyces, tuberculosis, IBD.
- **Malignancy:** when the growth of one organ penetrates into the nearby organ (Rectovesical fistulas as in carcinoma rectum, vesicouterine fistulas as in uterine cancer , colorectal cancer , gastric cancer both may lead to cologastric fistulas).
- Foreign body ingestion.
- Irradiation.



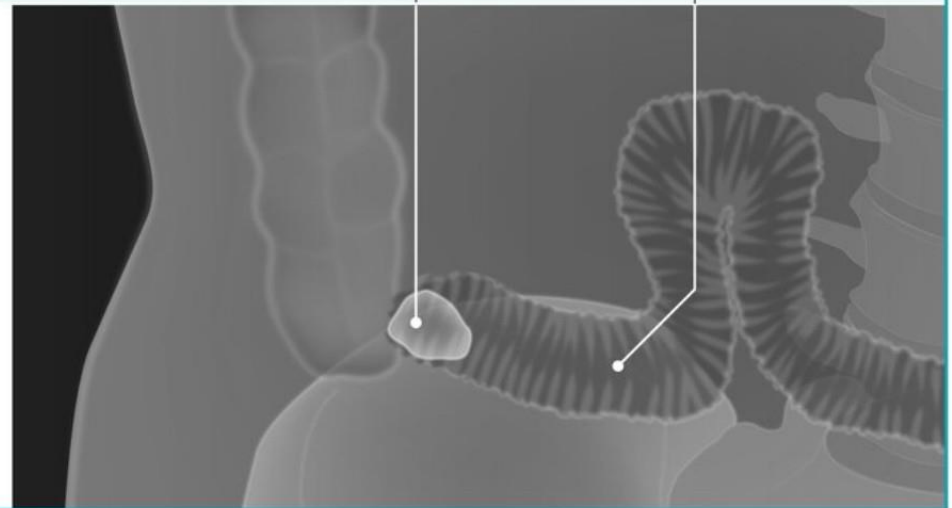
Cholecystoenteric fistula



Complication: Gallstone ileus



Radiography



Causes of persistence of a sinus or fistula:

1. A foreign body or necrotic tissue underneath, e.g. suture, sequestrum.
2. Insufficient or non-dependent drainage.
3. Persistent obstruction in the lumen, e.g. in faecal fistula, biliary fistula (distal obstruction).
4. Persistent infection.
5. Wall become lined with epithelium or endothelium.
6. Dense fibrosis prevents contraction and healing.
7. Specific infections: Tuberculosis, actinomycosis.

- **Different discharges in a sinus/fistula**

1. Purulent—bacterial infection.
2. Caseous—tuberculous.
3. Sulphur granules—actinomycosis.
4. Mucus—branchial fistula.
5. Saliva—parotid fistula
6. Faeces—faecal fistula.
7. Bile—biliary, duodenal fistula.
8. Bone—osteomyelitis sinus.
9. Urine – urinary fistula.

- **Investigations**

1. Fistulogram/sinusogram using ultra fluid lipoidal or water soluble iodine dye (Lipiodol is poppy seed oil containing 40% iodine).
2. Discharge for C/S, AFB, cytology, staining.
3. Biopsy from the edge.
4. Chest X-ray.
5. ESR/CRP.
6. CT sinusogram.
7. Probing gently with care.
8. Digital examination of the rectum and proctoscopy in fistula in ano.

- **Treatment**

- A. Treat the cause.
- B. Excision of sinus or fistula.

C. Always specimen should be sent for histology.

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