Sinus and fistula

by

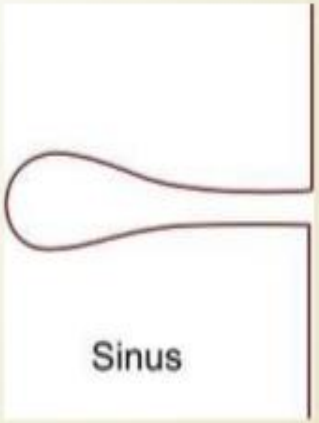
DR.OMAR TARIK ALHEETI

CABS.FICSM. LAP SURG

DEFINITION

SINUS:

- Blind track lined by granulation tissue leading from epithelial surface down into the tissues.



CAUSES

CONGENITAL

Preauricular sinus

ACQUIRED

TB sinus

Pilonidal sinus

Median mental sinus

Actinomycosis

FISTULA:

- **ABNORMAL** communication between lumen of one viscus and lumen of another **(INTERNAL FISTULA)**

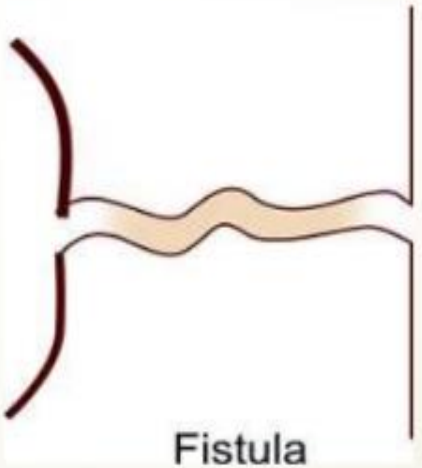
  (or)

  between lumen of one hollow viscus to the exterior **(EXTERNAL FISTULA)**

  (or)

  between any two vessels

Latin : flute (or) a pipe (or) a tube



CAUSES

CONGENITAL

- Branchial fistula
- Tracheo-esophageal
- Umbilical
- Congenital AV fistula
- Thyroglossal fistula

ACQUIRED

I. Traumatic

II. Inflammatory

III. Malignancy

IV. Iatrogenic

ACQUIRED

I. **TRAUMATIC:**

(A) following surgery : eg., intestinal fistulas (faecal,biliary,pancreatic)

(B) following instrumental delivery (or) difficult labour

e.g., vesicovaginal,rectovaginal, ureterovaginal fistula

II. INFLAMMATORY:

Intestinal actinomycosis, TB

III. MALIGNANCY:

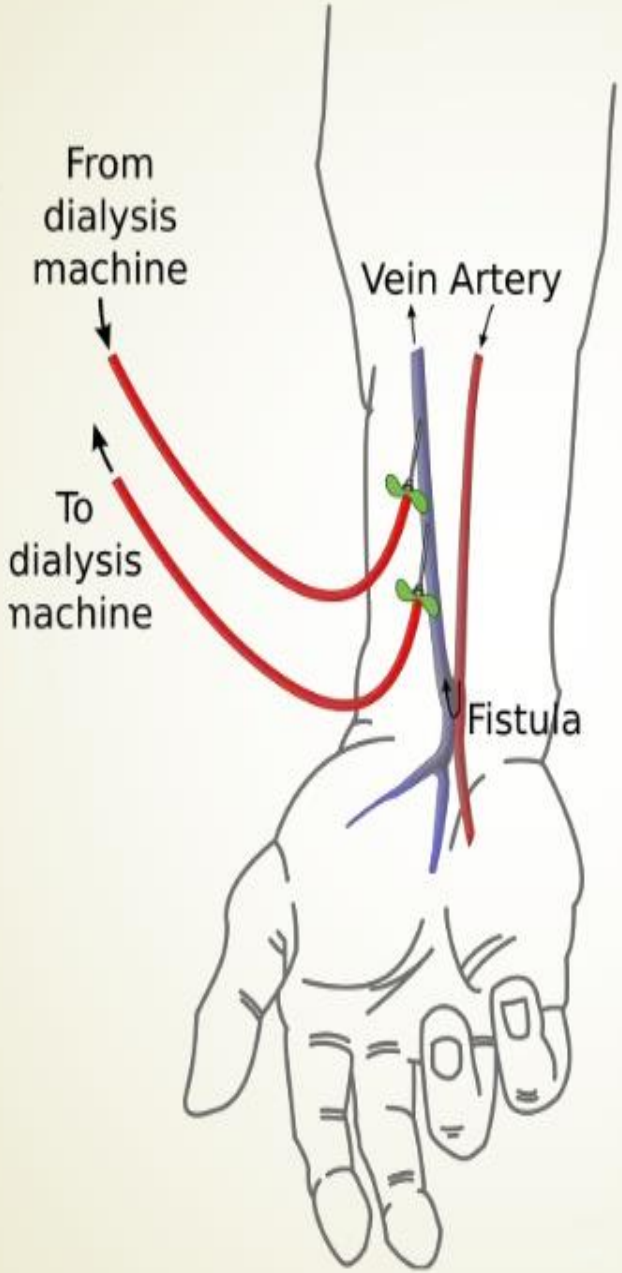
when growth of one organ penetrates into the nearby organ.

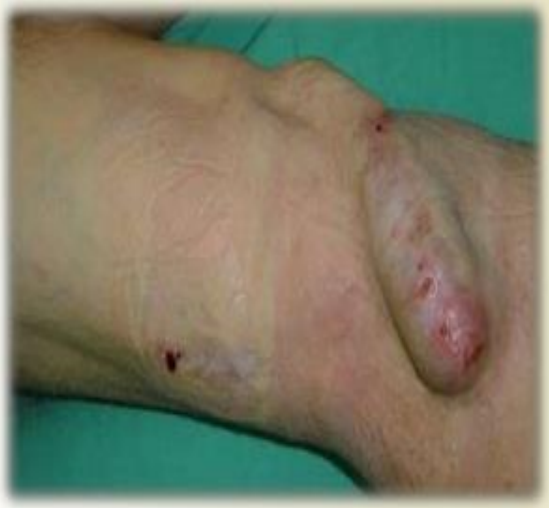
e.g., Rectovesical fistula in carcinoma rectum

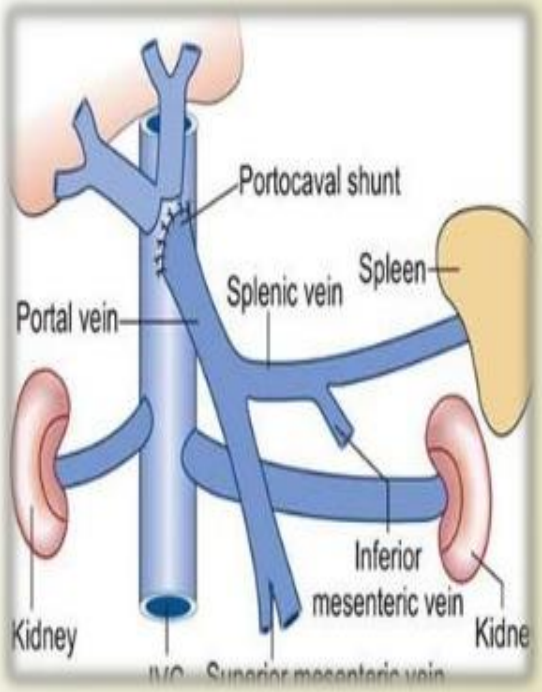
IV. IATROGENIC:

Cimino fistula- AVF for hemodialysis

fistula- to treat esophageal varices in portal HTN


From
dialysis
machine
Vein Artery
To
dialysis
nachine
Fistula




Portocaval shunt
Splenic vein
Spleen
Portal vein
Inferior
mesenteric vein
Kidney
Kidne

FISTULA

EXTERNAL

- Orocutaneous
- Enterocutaneous
- Appendicular
- Thyroglossal
- Branchial

INTERNAL

- Tracheo-esophageal
- Colovesical
- Rectovesical
- AVF
- Cholecystoduodenal

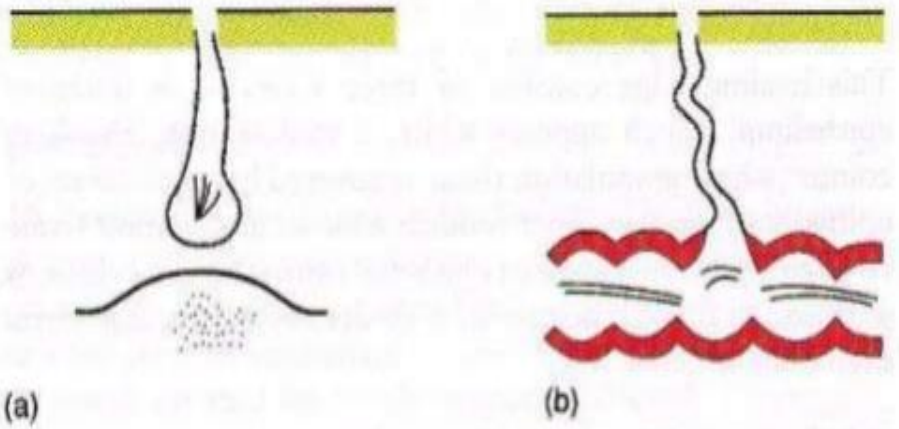


Fig. 12.18 (a) A sinus, and (b) a fistula. Both usually arise from a preceding abscess. (a) This shows that a sinus is a blind track, in this case a pilonidal sinus with its hairs; (b) this shows that a fistula is a track connecting two (epithelial) lined surfaces, in this case a colocutaneous fistula.

Causes for persistence of sinus (or) fistula

- Presence of a foreign body. e.g., suture material
- Presence of necrotic tissue underneath. e.g.,sequestrum
- Insufficient (or) non-dependent drainage.

  e.g., TB sinus
- Distal obstruction. e.g., faecal (or) biliary fistula
- Persistent drainage like urine/faeces/CSF
- Lack of rest

[contd.]

- Epithelialisation (or) endothelisation of the track. e.g., AVF
- Malignancy.
- Dense fibrosis
- Irradiation
- Malnutrition
- Specific causes. e.g., TB, actinomycosis
- Ischemia
- Drugs. e.g., steroids
- Interference by the patient

PATHOPHYSIOLOGY

CONGENITAL:

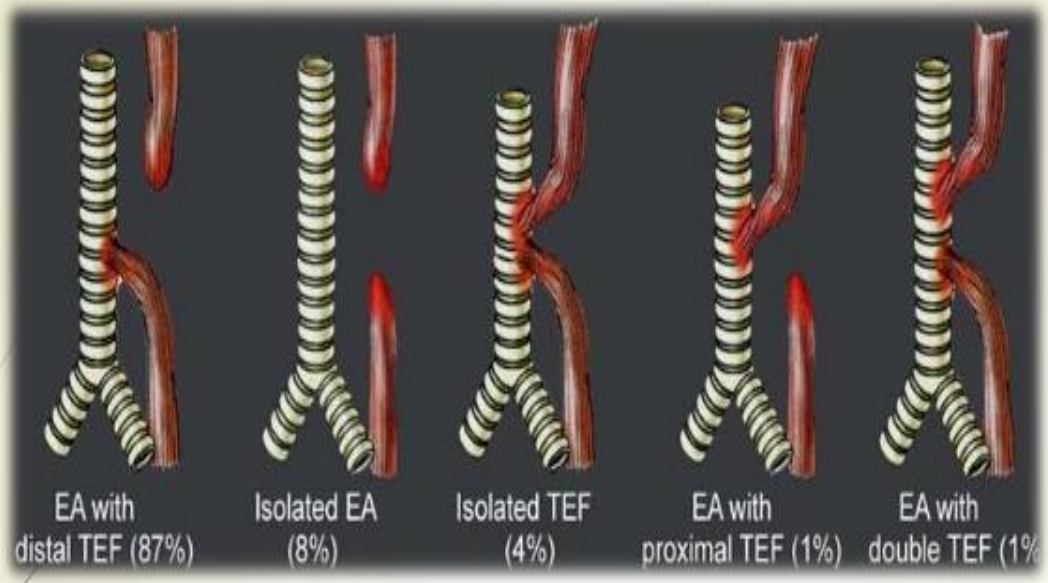
Arise from remnants of embryonic ducts that persist instead of being obliterated and disappearing completely during embryonic development.

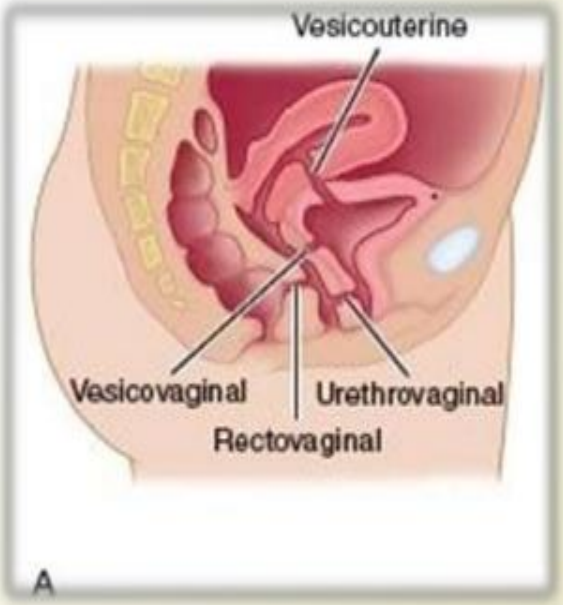
e.g., pre-auricular sinus, branchial fistula, TOF, congenital AVF.

ACQUIRED :

Usually secondary to presence of foreign body, necrotic tissue in affected area (or) microbial infection (or) following inadequate drainage of abscess.

e.g., perianal abscess when bursts spontaneously into skin forming a sinus and when bursts into both skin and anal canal forming a fistula.


EA with
distal TEF (87%)
Isolated EA
(8%)
Isolated TEF
(4%)
EA with
proximal TEF (1%)
EA with
double TEF (1%


Vesicouterine
Vesicovaginal
Urethrovaginal
Rectovaginal
A

CLINICAL FEATURES

Usually asymptomatic but when infected manifest as-

- Recurrent/ persistent discharge.
- Pain.
- Constitutional symptoms if any deep seated origin.

CLINICAL EXAMINATION

INSPECTION:

1. Location: usually gives diagnosis in most of the cases.

SINUS: pre-auricular- root of helix of ear.

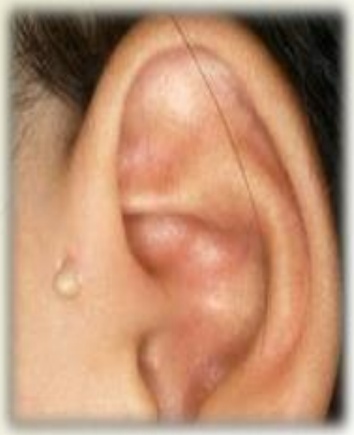
median mental- symphysis menti.

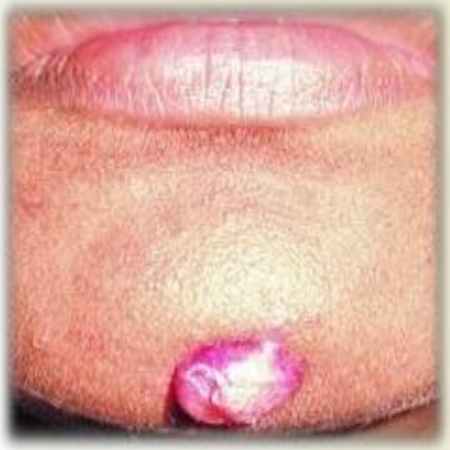
TB- neck.

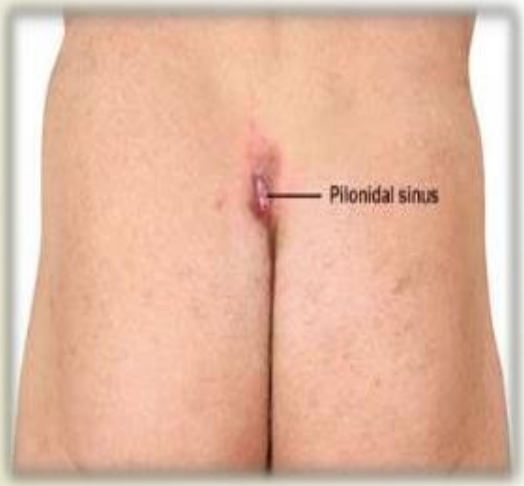
FISTULA: branchial- sternomastoid ant border.

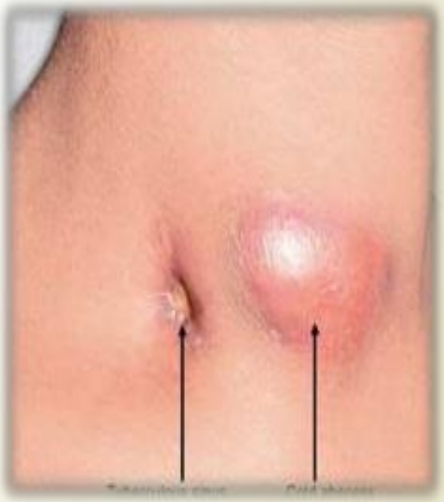
parotid- parotid region

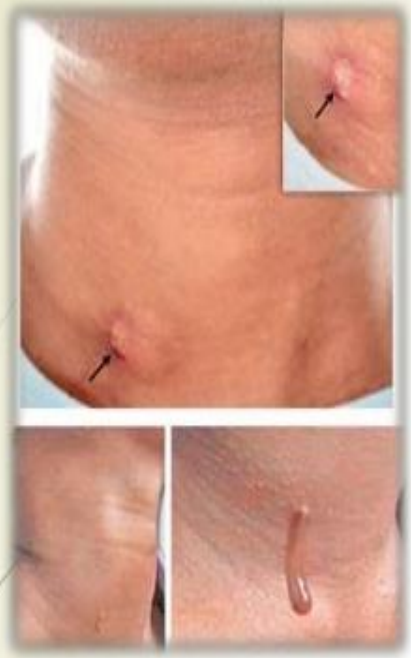
thyroglossal- midline of neck below hyoid.

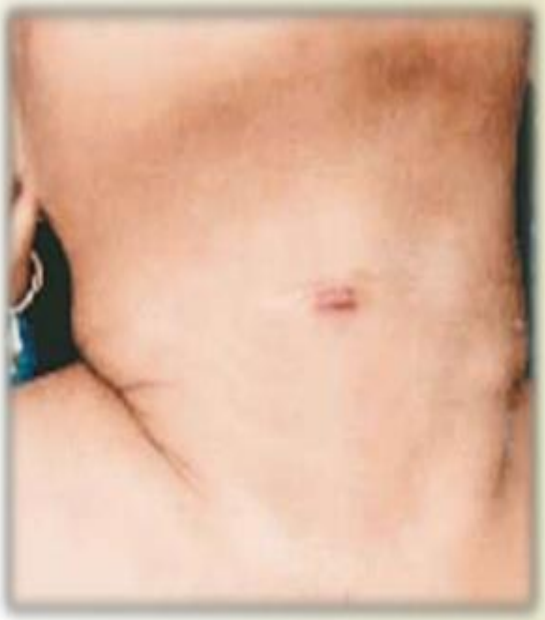


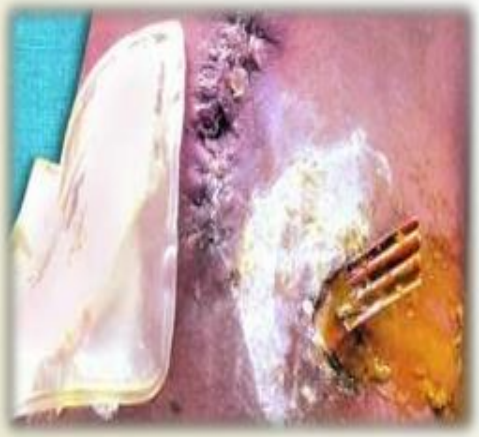


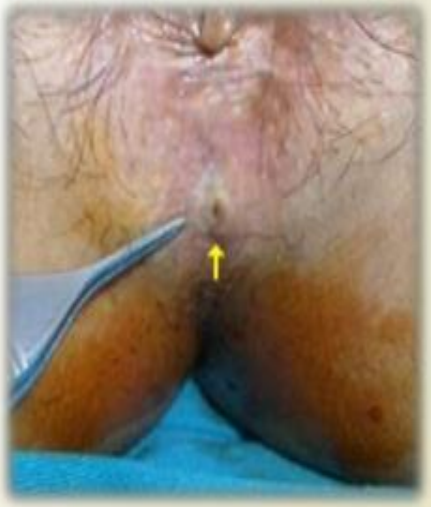

Pilonidal sinus











2. Number: usually single but multiple seen in HIV patients (or) actinomycosis.

3. Opening:

a) sprouting with granulation tissue-foreign body.

b) flushing with skin- TB

4. Surrounding area:

erythematous- inflammatory

bluish- TB

excoriated- faecal

pigmented- chronic sinus/fistulae.

5. Discharge:

- White thin caseous, cheesy like- TB sinus
- Faecal- faecal fistula
- Yellow sulphur granules- actinomycosis
- Bony granules- osteomyelitis
- Yellow purulent- staph. infections
- Thin mucous like- brachial fistula
- Saliva- parotid fistula

Palpation:

a) Temperature and tenderness:

b) Discharge: after application of pressure over the surrounding area.

c) Induration: present in chronic fistulae/sinus as in actinomycosis, OM

TB Sinus induration absent.

d) Fixity:

e) Palpation at deeper plane:

lymph nodes- TB

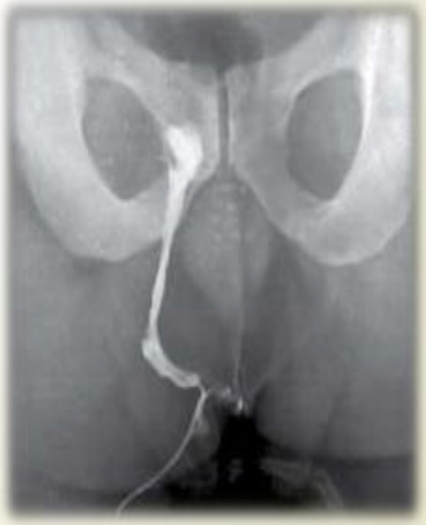
Thickening of bone underneath- OM

INVESTIGATIONS

- CBP- Hb, TLC, DLC, ESR.
- Discharge for C/S , AFB, cytology, Gram staining.
- X-RAY of the part to rule out OM, foreign body.
- X-RAY KUB and USG abdomen in cases of lumbar fistula to rule out staghorn calculi.
- MRI
- BIOPSY from edge of sinus
- CT Sinusogram

FISTULOGRAPHY/ SINUSOGRAPHY:

- For knowing the exact extent/origin of sinus (or)fistula.
- Water soluble or ultrafluid lipoidal iodine dye is used.
- Lipoidal iodine is poppy seed oil containing 40% iodine.



TREATMENT

BASIC PRINCIPLES:

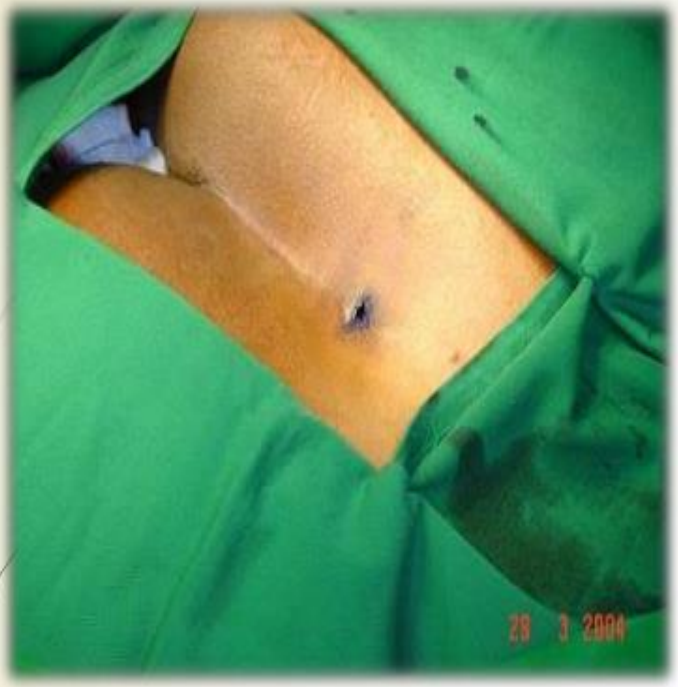
- Antibiotics
- Adequate rest
- Adequate excision
- Adequate drainage.

- After excision specimen **SHOULD** be sent for HPE.
- Treating the cause.

  e.g., ATT for TB sinus.

  removal of any foreign body.

  sequestrectomy for OM.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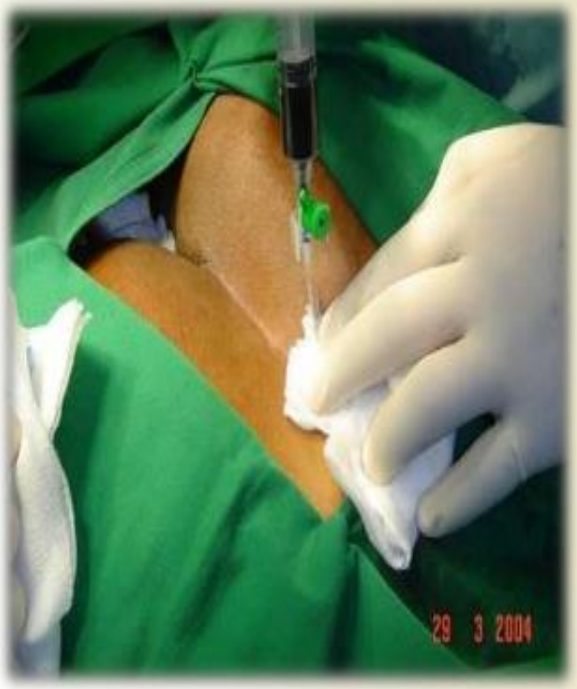
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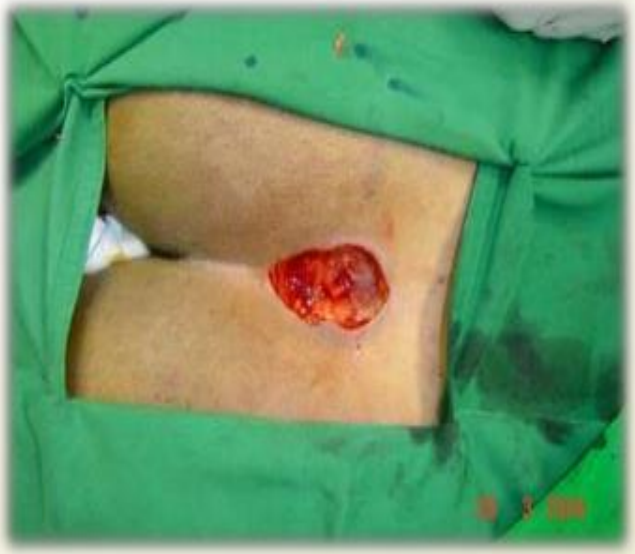


thank you!