

432 Surgery Team

14 Superficial swellings (SKIN&SUBCUTANEOUS TUMOURS\CYSTS)



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COLOR GUIDE: • Females' Notes • Males' Notes • Important • Additional

Objectives

NOT Given 😞

Skin anatomy

- **Epidermis:** openings of glands
- **Papillary dermis:** basal cell layer
- **Dermis:** contains sweat & sebaceous glands

Benign skin tumors

Papilloma (wart):

- Finger like projection of all skin layers (common on the hands, sole of the feet; Painful "churchills surgery")
- Usually infective (papilloma virus).
- pedunculated or sessile.

❖ **RX:** Cauterization (small or multiple)

Excision (large or sessile)

SCAR

Fibrous tissue proliferation following:

- Trauma
- Surgery
- Infection
 - ✓ it is usually flat

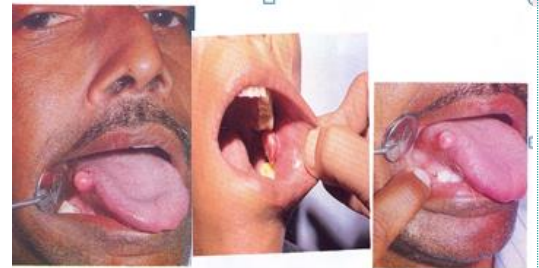
Hyper trophic scar

Excessive fibrous tissue in a scar

- **Confined to the scar.**
- No neovascularization.
- Wound infection is an important factor.
- Clinically it is a raised, non-tender swelling with no itching.
- It may regress gradually in six months **to two years.**
- Does not usually recur after excision.



Pedunculated = attached by a peduncle/stalk



Sessile= attached directly by its base without a stalk





Keloid

Excessive fibrous and collagen tissue with neovascular proliferation in a scar. (Enabling it to continue to grow and extend)

- ❖ usually extends beyond the original scar
- ❖ Initially raised, pink, tender, itchy and may ulcerate.
- ❖ More common in dark skinned people.
- ❖ progressive vs. non progressive
- ❖ acquired v/s spontaneous
- ❖ Keloids **can recur** after excision.



Rx: Injection (hyaluronidase, steroids etc.)

Excision & grafting



Pyogenic granuloma:

- Excessive granulation tissue growth in ulcers.
- Firm, bright, red swelling that bleed on touch.
- recurrent bleeding when exposed to Trauma

❖ **Rx:** Cauterization (if small)

Excision (if large)

In pyogenic granuloma, patient complains of a rapidly growing lump on skin, which bleeds easily



Haemangioma:

It is a developmental malformation of blood vessels rather than a tumor.

- Types: capillary, cavernous, arterial.
- It commonly occurs in skin & sub cutaneous tissue but other organs e.g. lips, tongue, liver, brain may be affected.



Malignant skin tumors



✚ Basal cell carcinoma (BCC):

- Ulcerated tumor of basal cell layer of skin.
- Middle aged white tropical males (Australia) (high UV light exposure).
- Common in the face. (triangle of face: nose, forehead, and eyelids)
- Low grade and slowly growing tumor (years).

❖ Clinically:

- **Rolled-in edges (inverted) with attempts of healing.**
- Floor shows unhealthy granulation with a scab.
- The base is indurated and may be fixed to bone.
- Spreads locally (usually no Lymph Nodes metastases).
- Predisposing factors and diseases:(churchill's surgery):

Gorlin's Sundrome,immunosuppression, xeroderma pigemntosum and naevus sebacsous.

❖ Rx: radio therapy & surgery

✚ Squamous cell carcinoma (Epithelioma)

- Arise from squamous cell layer of skin or mucus membrane.
- It may arise from metaplasia of columnar epithelium.
- Due to chronic irritation (gall bladder, bronchus, stomach .etc.).
- It can occur anywhere in the body, Male>Female.
- More malignant and rapidly growing than BCC.
- **Edges are rolled out (everted)**
- Spreads: Locally, L.N, and blood

❖ Rx: Radiotherapy & Surgery





Marjolin ulcer

- It is a low grade squamous cell carcinoma
- Arising in chronically inflammed ulcers or scars.

❖ **Rx:** Radiotherapy & Surgery



This picture shows a patient who started to develop **marjolin ulcer** on top of his 20 years old burn scar.



Naevus (mole)

- A localized cutaneous malformation.
- Includes moles & birth marks.
- They may present at birth, or even later.

❖ Types:

- Junctional, Intradermal, Compound, Blue naevus
- Juvenile and Freckle



Junctional=located in dermo-epithelial junction, may turn into malignancy. Compound=located in both dermis and junction, may turn into malignancy. Intradermal=located mostly in dermis, has no malignancy potential.

❖ **Evidences of malignant change:**

- Increase in size
- Change to irregular edge
- Change in thickness
- Change in color
- Change in surrounding tissue
- Symptoms e.g.: itching, bleeding discharge
- Lymphadenopathy.
- Microscopic evidence.



Malignant Melanoma

- It is a rare but most rapidly infiltrating skin tumor
- De-novo (10 %), Pre-existing naevus (90 %).
- ❖ Metastasis:
 - Local & satellite nodules.
 - Lymphatic. (early metastasis to LN)
 - Blood (liver, lung, bone etc.)



Skin Cysts



Implantation Desmoids:

- It is a post traumatic dermoid.
- Commonly in fingers and hands of farmers & taylor's.
- Tense, may be hard tender swelling.
- Attached to skin which may be scarred
- Contains desquamated epithelial cells.
- pain and ulceration may occur following repeated trauma
- **Rx:** Excision is curative.





Sebaceous Cyst

Sebaceous cysts have two important features: 1. Skin adherence
2. Punctum

- It is a retention cyst due to blockage of its duct.
 - Lined by squamous epithelium and contains sebum and Spherical, cystic or tense swelling, attached to skin with **punctum**(very **diagnostic**)that may discharge sebum upon squeezing.
 - Indentation and fluctuation tests may be positive .But transillumination test is negative. (**opaque fluid**)
- Desquamated Epithelium.
- Commonly in scalp, Face, scrotum and vulva (**never in palm & sole**).
- ❖ **Clinically:**
 - ❖ Complications:
 - Cosmetic.
 - Infection(Staph.aureus'Churchill's)
 - ulceration
 - Cock peculiar tumor (granuloma due to ulceration)
 - sebaceous Horn (inspissated secreted sebum)
 - ❖ **Rx** : - Excision – (un infected cyst)
 - Drainage followed by excision- (infected s/c)



Subcutaneous Lumps

- Cystic swellings:

congenital	acquired
<ul style="list-style-type: none"> • Dermoid cyst • cystic hygroma • haemangioma 	<ul style="list-style-type: none"> • Abcess • Parasitic • haematoma

- Solid swellings

- commonly benign: shwanoma, neurofibroma, lipoma
- (rarely malignant)



Dermoid cyst

✓ Clinically **four** varieties:

1. Sequestration dermoid.
2. Implantation dermoid.
3. Tubulo-dermoid.
4. Terato-dermoid.



❖ Sequestration dermoid

- It is a true congenital cyst. (c.f. implantation dermoid)
- Ectodermal tissue buried in mesoderm forming a cyst lined by squamous epith. and contains paste-like desquamated epith.
- **Common at lines of Embryonic fusion sites:**
 - Midline: neck & root of nose. (radiological assessment for IC extension. churchill's)
 - Scalp.
 - Inner or outer angles of eyes.

- **Clinical features:**

- Painless, spherical, cystic mass.
- Smooth surface.
- Not attached to skin cf. seb. cyst
- No punctum cf. seb. Cyst.
- Not compressible cf. meningocoele.
- Cough impulse & bone indentation (scalp)
- Transillumination test? + Ve.

❖ Tubulo-dermoid

- Cystic swelling arising from the non-obliterated part of congenital duct or tube which fills up by secretions of lining epith.
- Examples
 - Thyroglossal cyst (remnant of thyroglossal duct).
 - Most common midline neck swelling and usually presents as a painless, rounded cystic lump, which moves on swallowing or protruding the tongue.
 - Post-anal dermoid (remnant of neuro-enteric canal).
 - Epindymal cyst in brain (rem. Of neuro-ectoderm canal).



This picture shows **thyroglossal cyst**, which characteristically moves with tongue protrusion.

❖ Teratomatous dermoid

- Cystic swelling arising from the totipotent cells with ectodermal preponderance.
 - Ovary ; Ovarian cyst.
 - Testes :Teratoma
 - Mediastinum.
 - Retroperitoneum.
 - Pre-sacral area.
- They usually contain derivatives of mesoderm (cartilage, bone, hair, cheesy material).



Cystic hygroma

- ❖ A congenital malformation affecting lymphatic channels.
- ❖ Clinically :
 - Appears early, multilocular, filled with clear fluid (transillumination +ve).
- ❖ Lined by columnar epith.
- ❖ Common in: neck, axilla, groin, mediastinum and tongue.



Branchial cyst

- ❖ A congenital cyst in persistent cervical sinus.
- ❖ Located below angle of mandible, behind mid sternocleidomastoid muscle
- ❖ Clinically:
 - Tense, distinct edges, +ve fluctuation and -ve transillumination.
- ❖ Contains cholesterol crystals (diagnostic).
- ❖ Differential diagnosis:
 - Cold abscess, dermoid cyst, plunging ranula, cystic hygroma
 - Carotid body tumor, lymph node, submandibular gland.





Ganglion

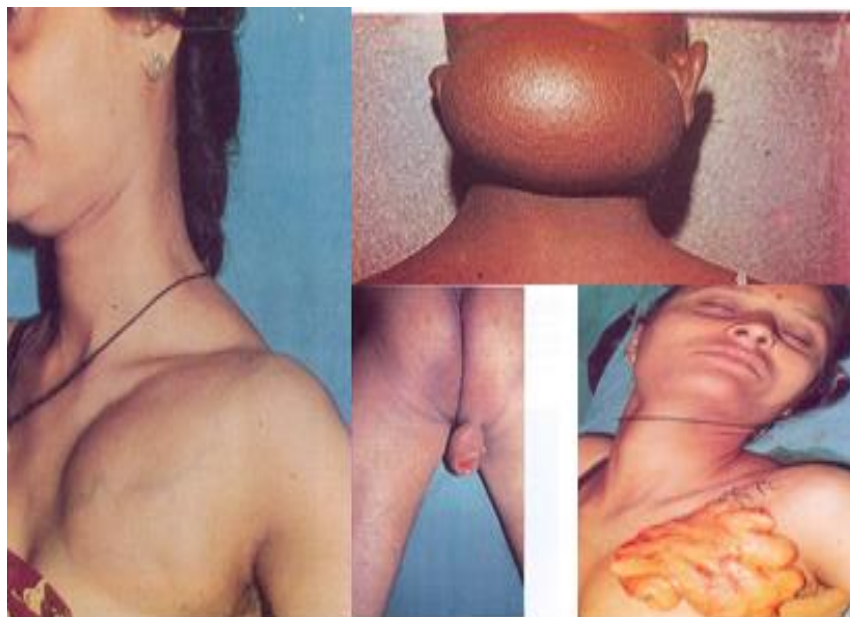
- ❖ It a cystic swelling of synovial membrane of tendon or capsule in small joints
- ❖ myxomatous degeneration.
- ❖ may be communacating.
- ❖ **Common sites**
 - dorsum of wrist
 - dorsum of foot and ankle.
 - palmar aspect of wrist & fingers.
- ❖ Clinically:
 - Slowly growing lump.
 - Common in females.
 - Spherical, firm, cystic swelling.
 - Mobile across tendon axis but limited along longitudinal axis.
- ❖ **Rx:** excision





Lipoma

- ❖ It is a benign tumor of adipose tissue.
- ❖ **The most common benign tumor in subcutaneous tissue.**
- ❖ Common in trunk, neck and limbs.
- ❖ Encapsulated vs. diffuses.
- ❖ May be mixed e.g: fibrolipoma , neurolipoma(with neural tissue) , haemangioma-lipoma(with vascular tissue).
- ❖ Dercum''s diseas (multiple lipomatosis).
- ❖ clinical features:
 - Painless, soft and lobulated lump.
 - Well defined edges and skin is free.
 - Slipping sign positive.
 - Freely mobile.
 - Fluctuation test is negative.
 - Tranillumination test is negative.
- ❖ **complication:**
 - Necrosis, calcification, haemorrhage, infection ,and rarely malignancy.
- ❖ **Treatment:**
 - Small asymptomatic – re-assurance
 - Symptomatic :
 - surgical excision(if encapsulated)
 - Liposuction (if diffuse).





NEUROFIBROMA

- ❖ Tumour of nerve connective tissue (not neurons)
- ❖ Types:
 - Localised or solitary NF.
 - Generalized multiple neurofibromatosis type 1 (Von-Recklinghausen”s disease)
 - Plexiform NF
 - Elephantiasis NF
 - Cutaneous NF
- ❖ clinical features of N.F:
 - Encapsulated, rounded or elliptical swelling.
 - Smooth, firm with well-defined edges.
 - Tenderness and parasthesia may be present.
 - Mobility may be deminished along nerve-axis.
- ❖ **Rx:** excision



Multiple neurofibromatosis (VON-RECKLINGHAUSEN’S DISEASE)

- ❖ Inherited as an autosomal dominant disease.
- ❖ More common in males.
- ❖ Multiple tumours- with Cafe-au-leit spots.
- ❖ Peripheral and cranial nerves may be affected.
- ❖ May be associated with other tumors (eg, endocrine).



SUMMARY

1. Skin anatomy :Epidermis ,Papillary dermis and Dermis

2. Benign skin tumors

- papilloma(wart)
- SCAR
- Hyper trophic scar
- Keloid
- Pyogenic granuloma
- Haemangioma

3. Malignant skin tumours

- Basal cell carcinoma (BCC)
- Squamous cell carcinoma (Epithelioma)
- Marjolin ulcer
- Naevus (mole)
- Malignant Melanoma

4. Skin Cysts

- Implantation Dermoid
- Sebaceous Cyst

5. Subcutaneous Lumps

- Dermoid cyst
 - Sequestration dermoid.
 - Tubulo-dermoid.
 - Terato-dermoid
- Cystic hygroma
- Branchial cyst
- Ganglion
- Lipoma
- NEUROFIBROMA
- Multiple neurofibromatosis (V-R disease)

Questions

1) The finger like projections of connective tissue core that is lined with an epithelium is called?

- A. Fibroma
- B. Papilloma
- C. Lipoma
- D. Ganglion

2) The most common midline single neck swelling is:

- A. Pharyngeal pouch
- B. Dermoid cyst
- C. Laryngocele
- D. Thyroglossal cyst

3) Basal cell carcinoma:

- A. Metastasize very quickly
- B. Aggressive tumor that grows rapidly
- C. Surgery is the best treatment for local lesions
- D. A tumor of infancy

4) All of the following are common sites of squamous cell carcinoma, except:

- A. Neck
- B. Back of the hand
- C. Lower lip
- D. Lower back

5) A 40 years old male presented with 10x10 cm, soft non-compressible, mobile mass that was not attached to the skin. The most likely diagnosis is:

- A. carbuncle
- B. hemangioma
- C. Lipoma
- D. Dermoid cyst

6) Marjolin ulcer:

- A. Is a type of basal cell carcinoma
- B. Is a type of squamous cell carcinoma
- C. Is a type of melanoma
- D. Is a type of an ulcer in a dysplastic navus

Answers:

1st Questions: B

2nd Questions: D

3rd Questions: C

4th Questions: D

5th Questions: C

6st Questions: B

