

L12-Superfascial Lumps



Surgery Team
MED 433

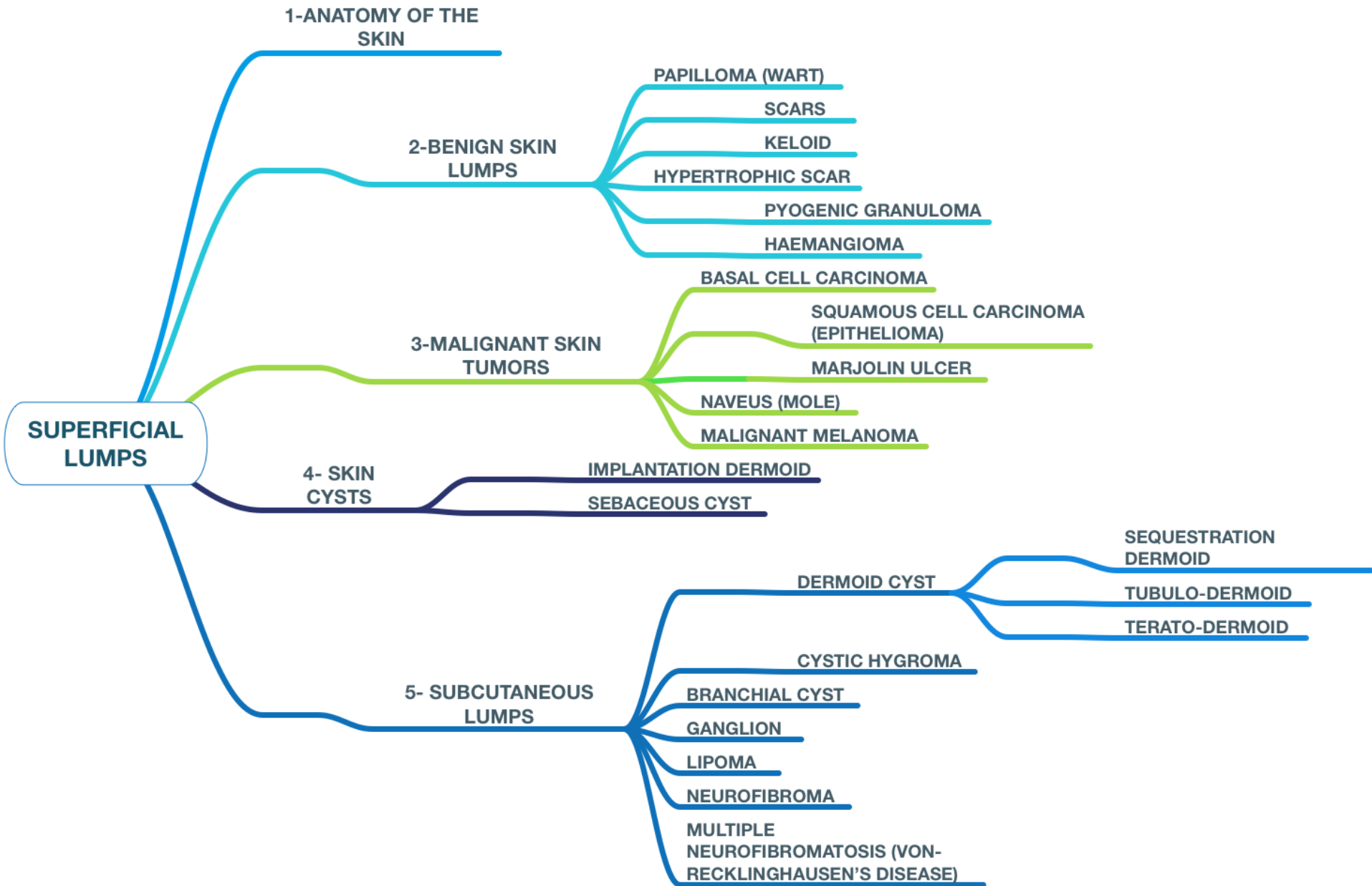


Objectives :

[Color Index](#): Slides & Raslan's () | [Doctor's Notes](#) | Extra Explanation | [Additional](#)

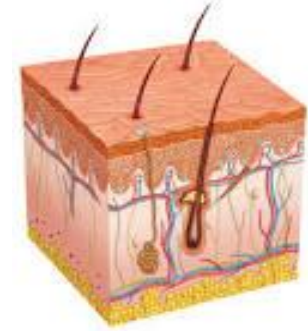
This work is based on doctor's Slides +Notes and Raslan's only (Does not include the book)

Mind Map:



Skin Anatomy

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



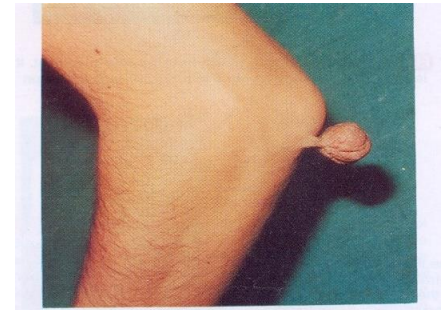
1) Benign Skin Tumors

A. papilloma(wart): (most common)

- Finger like projection of all skin layers
- usually **infective** (papilloma virus).
- pedunculated or sessile.

*Treatment:

- Cauterization (small or multiple)
- Excision (large)



Pedunculated = attached by a peduncle/stalk.



Sessile= attached directly by its base without a stalk (broad base).

Scar

Fibrous tissue proliferation following :

1-Trauma 2- surgery 3- Infection.

*(It is usually flat)

B. Hyper Trophic Scar

- Excessive fibrous tissue in a scar, **confined to the scar**.
- no neovascularization.
- wound infection is an important factor

Clinically:

- o Raised
- o Non tender swelling.
- o Not itchy.

*It may regress gradually in six months
+**Does not recur** after excision.



C. 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.

Clinically:

- o Initially raised Superficial Lumps
- o Pink and tender
- o Itchy and may ulcerate
- more common in **dark skinned** people.
- Progressive vs. non-progressive.
- Acquired vs. spontaneous.
- Keloids **can recur** after excision .

Treatment:

- Injection (hyaluronidase , steroids etc.)
- Excision* & grafting

*endo-scar-excision (not whole scar, leave 1mm margin).



after ear-piercing.

D. Pyogenic Granuloma:

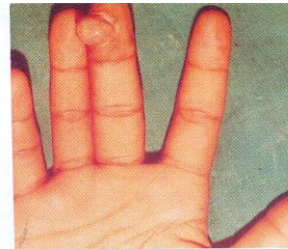
- Excessive granulation tissue growth in ulcers.
- Firm, bright, red swelling that bleeds on touch.
- Recurrent bleeding when exposed to Trauma.

Treatment:

- cauterization (if small),
- excision (if large).



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



Fingers



After alignment of teeth

E. Haemangioma:

A developmental malformation of blood vessels rather than a tumor.

Types:

1- capillary 2- cavernous 3- arterial.

It commonly occurs in skin and sub-cutaneous tissue but can occur in other organs e.g. lips, tongue, liver, and brain may be affected .



2) Malignant Skin Tumors

A. Basal cell carcinoma (BCC) :

- Ulcerated tumor of basal cell layer of skin.
- Middle aged white tropical males (Australia). (high UV light exposure)
- **Common in 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 an un healthy granulation with a scab.
- The base is indurated and may be fixed to bone.
- **spreads locally** (usually no L.N metastases).

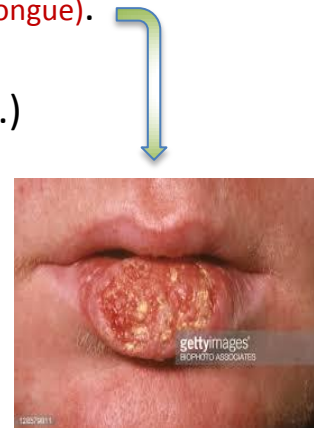
Treatment : radio therapy & surgery



B. Squamous Cell Carcinoma (Epithelioma):

- Arise from squamous cell layer of skin or mucus membrane (tongue).
- 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.

Treatment: Radiotherapy & Surgery (local wide excision).

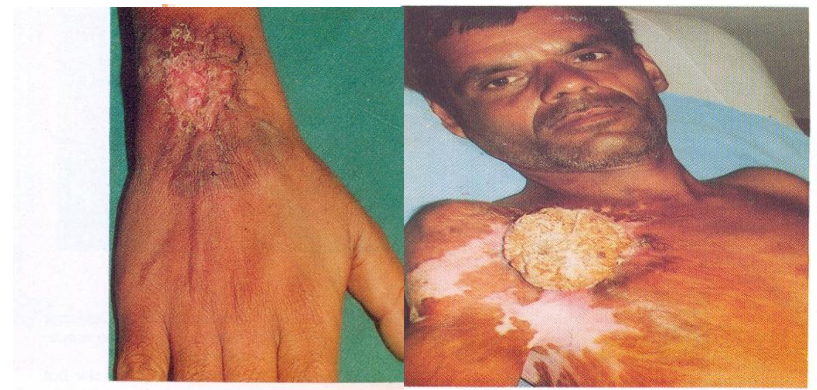


C. Marjolin Ulcer:

It is a low grade squamous cell carcinoma arising in chronically inflamed ulcers or scars.

Treatment:

Radiotherapy & Surgery.



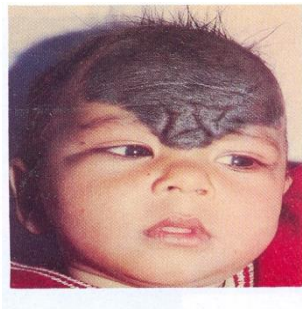
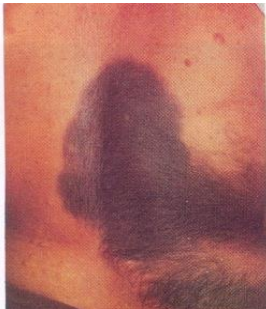
This picture shows a patient who started to develop marjolin ulcer on top of his 20 years old burn scar.

D. Naevus (mole):

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

Types:

junctional , intradermal , compound, blue naevus, juvenile and freckle.



Evidences of Malignant Change: (very important)

- 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.

E. Malignant Melanoma:

- It is rare but **most rapidly infiltrating skin tumor**
- De-novo (10 %) , Pre-existing naevus (90 %).

Metastasis :

- Local & satellite nodules.
- Lymphatic.
- Blood (liver, lung, bone etc).



Satellite nodule

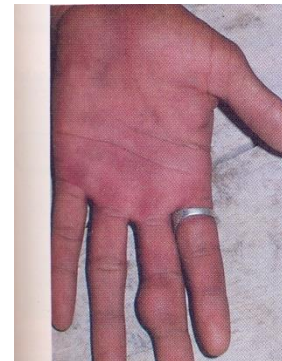


3) Skin Cysts

A. Implantation Dermoid :

- It is a post traumatic dermoid.
- **Commonly in fingers and hands of farmers & tailors.**
- 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.

Treatment: Excision is curative. (necrotic tissue inside it)



Implantation dermoid in ear



B. Sebaceous Cyst

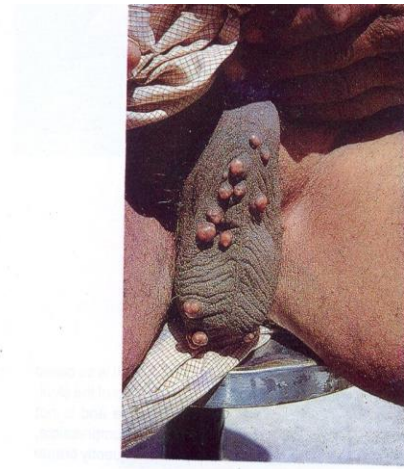
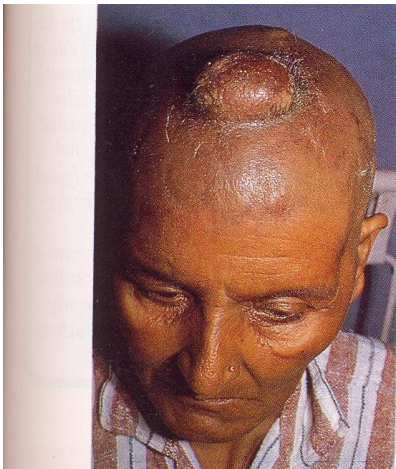
- It is a retention cyst due to blockage of its duct.
- Lined by squamous epithelium and contains sebum and desquamated Epithelium.
- Commonly in scalp, Face, scrotum and vulva (**never in palm & sole**).

Clinically:

- Spherical, cystic or tense swelling , attached to skin **with punctum that may discharge sebum upon squeezing**.
- indentation and fluctuation tests may be **positive**.
- trans-illumination test is **negative**. (opaque fluid)

Sebaceous cysts have two important features:

1. Skin adherence
2. Punctum (Black head).



Sebaceous Cyst cont;

Complications:

- Cosmetic.
- Infection (Staph.aureus 'Churchill's).
- Ulceration.
- Cock peculiar tumor. (granuloma due to ulceration)
- Sebaceous horn .(inspessated secreted sebum).



sebaceous Horn

Treatment:

- Excision: for uninfected cyst .
- Incision & drainage: followed by excision for infected cyst.

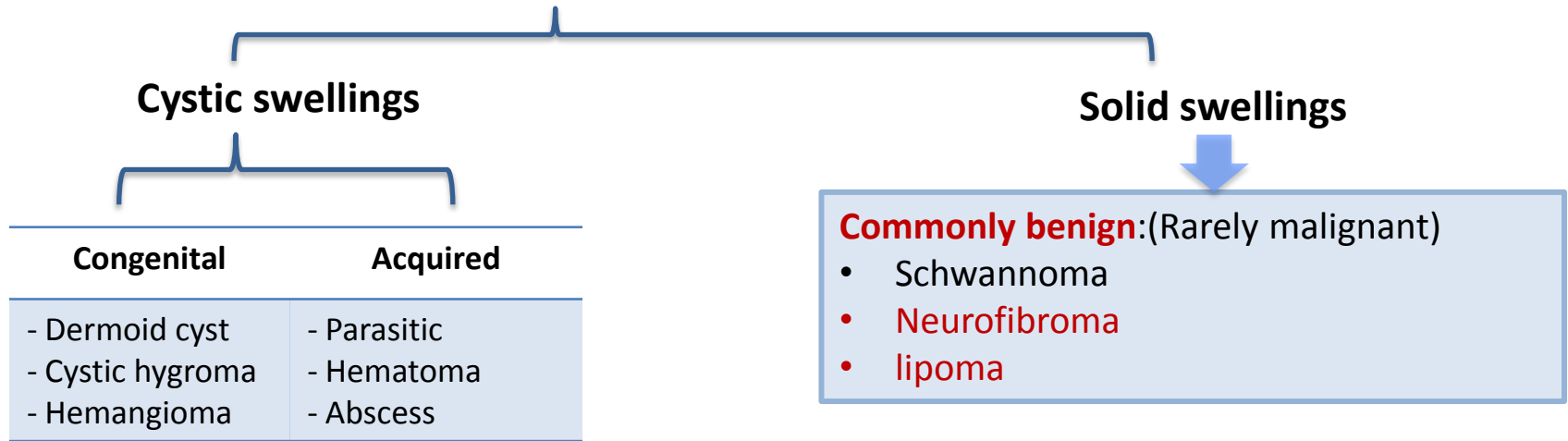


Infected sebaceous cyst.



Sebasceous cyst excision

4) Subcutaneous lumps



A. Dermoid cyst

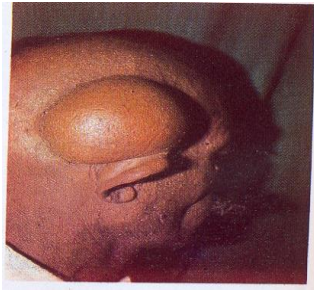
- Clinically **four** variants:
 - **Sequestration dermoid** • Implantation dermoid • Tubulo-dermoid • Terato-dermoid

1. Sequestration dermoid

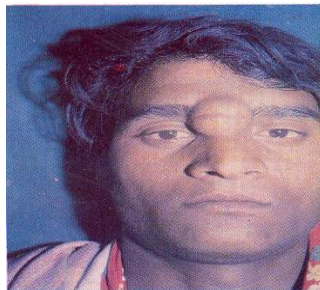
- It is a **true congenital** cyst (c.f. implantation dermoid)
- **Ectodermal tissue buried in mesoderm** forming a cyst, lined by squamous epithelium and **contains paste-like** desquamated epithelium.
- **Common at lines of embryonic fusion sites:**
 - Midline: neck and root of nose
 - Scalp
 - Inner or outer angles of eyes
- **complications:** infection

Clinical features:

- **Painless**, spherical, cystic mass
- Smooth surface
- **Not attached to skin** (c.f. sebaceous cyst)
- No punctum (c.f. sebaceous cyst)
- **Not compressible** (c.f. meningocele)
- Cough impulse and **bone indentation (scalp)**
- **Trans-illumination test is negative.**



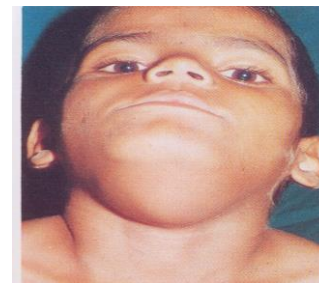
Occipital dermoid



Nasal root dermoid



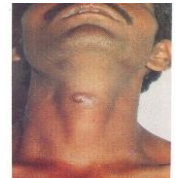
External angular dermoid



Submental dermoid

2. Tubulo-dermoid:

- Cystic swelling arising from the non-obliterated part of congenital duct or tube which fills up by secretions of lining epithelium.
- 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)
 - Ependymal cyst in brain (remnant of neuro-ectoderm canal)



3. Terato-dermoid:

- Cystic swelling arising from 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).

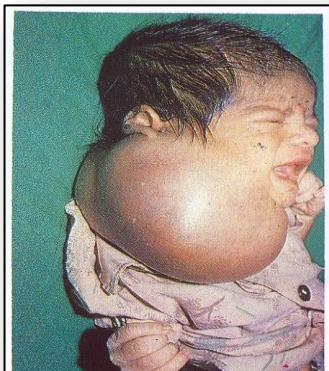
B. Cystic hygroma

- A congenital **malformation** affecting lymphatic channels

○ Clinically:

- It appears early, multilocular, **filled with clear fluid** (containing lymph).
- (transillumination positive)

- Lined by columnar epithelium
- **Common in: neck, axilla, groin**, mediastinum and tongue.



C. Branchial cyst

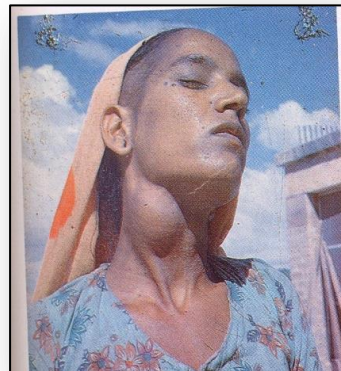
- A congenital cyst in persistent **cervical sinus**
- Located **below angle of mandible, behind mid sternocleomastoid muscle**

○ Clinically:

- Tense, distinct edges, **positive fluctuation and negative transillumination.**
- Contains **cholesterol crystals (diagnostic)**

Differential diagnosis:

- Cold abscess, dermoid cyst, plunging ranula, cystic hygroma
- Carotid body tumor, lymph node, submandibular gland



D. Ganglion

- A cystic swelling of **synovial membrane of tendon or capsule in small joints.**
- Myxomatous degeneration
- May be communicating
- **Common sites:**
 - Dorsum of wrist.
 - Dorsum of foot and ankle.
 - Palmar aspect of wrist and fingers.

○ Clinically:

- **Slowly growing lump.** (become more prominent when the wrist is flexed forward).
- Common in females
- Spherical, firm, cystic swelling
- Mobile across tendon axis but limited along longitudinal axis

○ Treatment:

- Asymptomatic → re-assurance.
- Symptomatic → **aspiration or excision**



Subcutaneous Lumps (solid swellings)

A) Lipoma

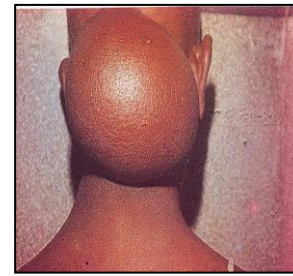
- **Benign** tumor of adipose tissue.
- The most common benign tumor in subcutaneous tissue.
- Common in trunk, neck and limbs
- Encapsulated vs. diffuse
- May be **mixed** e.g. fibrolipoma, neurolipoma (with neural tissue), and haemangioma-lipoma (with vascular tissue)
- **Dercum's disease** = multiple lipomatosis



- **Clinically:**
 - Painless, soft and lobulated lump.
 - **Well-defined edges** and skin is free.
 - **Slipping sign positive.** (manner in which lipoma tends to slip away from examining finger on gentle pressure).
 - Freely mobile.
 - **Fluctuation test is negative.**
 - **Tranillumination test is negative.**



- **Complications:**
 - **Necrosis, calcification**, hemorrhage, infection, and rarely malignancy
- **Treatment:**
 - Small symptomatic → **reassurance** only
 - symptomatic → **surgical** excision (if encapsulated) or **liposuction** (if diffuse)



multiple lipomatoses



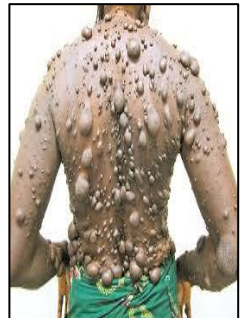
Ulcerated lipoma

B) Neurofibroma

- Tumor of **nerve connective tissue (not neurons)**.
- **Types:**
 - Localized or solitary NF
 - Generalized multiple neurofibromatosis type 1 (Von-Recklinghausen's disease)
 - Plexiform NF
 - Elephantiasis NF
 - Cutaneous NF

○ **Clinically:**

- Encapsulated, rounded or elliptical swelling
- Smooth, firm with **well defined edges**
- **Tenderness and parasthesia may be present** (nerve compression).
- **Mobility may be diminished along nerve-axis**



Multiple neurofibromatosis

- **Treatment:** Excision

Multiple neurofibromatosis (von-recklinghausen's disease)

- ✓ Inherited as an **autosomal dominant** disease.
- ✓ More common in **males**
- ✓ Multiple tumors with **Café-au-lait spots** (are hyper-pigmented lesions that may vary in color from light brown to dark brown; this is reflected by the name of the condition, which means "coffee with milk").
- ✓ **Peripheral and cranial nerves may be affected**
- ✓ May be associated with other tumors (e.g. endocrine)

Summary

Benign skin tumors

Papilloma (wart)	Hyper trophic scar	Keloid
<ul style="list-style-type: none"> - Finger like projection, (common on the hands, sole of the feet); Painful. - Usually infective (papilloma virus). - pedunculated or sessile. - Rx: Cauterization (small or multiple) Excision (large or sessile) 	<ul style="list-style-type: none"> - Excessive fibrous tissue in a scar. - Confined to the scar. - No neovascularization. - Clinically: non-tender swelling with no itching. - It may regress gradually in six months. - Does not usually recur after excision. 	<ul style="list-style-type: none"> - Excessive fibrous and collagen tissue with neovascular proliferation in a scar. - usually extends beyond the original scar - Initially raised, pink, tender, itchy and may ulcerate. - More common in dark skinned people. - Rx: Injection (hyaluronidase, steroids etc.) Excision (Keloids can recur after excision) & grafting.
Pyogenic granuloma	Haemangioma	
<ul style="list-style-type: none"> - Excessive granulation tissue growth in ulcers. - Red selling that bleed on touch. - Recurrent bleeding when exposed to Trauma. - Rx: Cauterization (if small), Excision (if large) 	<ul style="list-style-type: none"> - developmental malformation of blood vessels rather than a tumor. - 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)	Squamous cell carcinoma (Epithelioma)	Naevus (mole)
<ul style="list-style-type: none"> - Ulcerated tumor of basal cell layer of skin. - Middle aged white tropical males (high UV light exposure). - Common in the face. (triangle of face: nose, forehead, and eyelids) - slowly growing tumor Clinically: - Rolled-in edges (inverted) with attempts of healing (shows unhealthy granulation). - Spreads locally (usually no Lymph Nodes metastases). - Predisposing factors and diseases: (churchill's surgery). - Rx: radio therapy & surgery 	<ul style="list-style-type: none"> - Arise from squamous cell layer of skin or mucus membrane, it may arise from metaplasia of columnar epithelium. (Due to chronic irritation). - Male>Female. - More malignant and rapidly growing than BCC. Clinically - Edges are rolled out (everted) - Spreads: Locally, L.N, and blood - Rx: Radiotherapy & Surgery 	<ul style="list-style-type: none"> - A localized cutaneous malformation. - Includes moles & birth marks, they may present at birth, or even later. - 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. And Microscopic evidence.
Marjolin ulcer	Malignant Melanoma	
<ul style="list-style-type: none"> - It is a low grade squamous cell carcinoma. - Arising in chronically inflamed ulcers or scars (long standing scar). - Rx: Radiotherapy & Surgery 	<ul style="list-style-type: none"> - It 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 & taylors.**
- **Clinically:**
- Tense, may be hard tender swelling.
- Attached to skin which may be scarred.
- Contains **desquamated epithelial cells**.
- Rx: Excision is curative.

Sebaceous Cyst

- It is a retention cyst due to blockage of its duct.
- Lined by squamous epithelium and **contains sebum** and Spherical, **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**.
- **Commonly in scalp, Face, scrotum and vulva** (never in palm & sole).
- Rx : ● Excision→(un infected cyst) ● Drainage followed by excision→(infected s/c)

Subcutaneous Lumps (Cystic swellings)

Dermoid cyst

- Clinically four varieties:
1. Sequestration dermoid.
 2. Implantation dermoid.
 3. Tubulo-dermoid.
 4. Terato-dermoid.

Cystic hygroma

- A congenital malformation affecting lymphatic channels.
- **Clinically :**
- Appears early, multilocular, **filled with clear fluid(transillumination + ve)**
- 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)**

Ganglion

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

Sequestration dermoid

- It is a true **congenital** cyst. (c.f. implantation dermoid)
- Ectodermal tissue buried in mesoderm forming a cyst, contains **paste-like desquamated epith.**
- **Common at lines of Embryonic fusion sites:**
 1. Midline: neck & root of nose
 2. Scalp.
 3. Inner or outer angles of eyes.
- **Clinically:**
- **Painless, not attached to skin**, no punctum, **not compressible**, Cough impulse and **bone indentation (scalp) and transillumination test is negative**.

Tubulo-dermoid

- Cystic swelling arising from the non-obliterated part of congenital duct or tube which fills up by secretions of lining epith.
- E.g: **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.

Teratomatous dermoid

- Cystic swelling arising from the totipotent cells with ectodermal preponderance.
- They usually contain derivatives of mesoderm (cartilage, bone, hair, cheesy material).

Subcutaneous Lumps (solid swellings)

Lipoma

- Benign tumor of adipose tissue.
- The most common benign tumor in subcutaneous tissue.
- May be mixed e.g: fibrolipoma , neurolipoma(with neural tissue) , haemangioma-lipoma(with vascular tissue).
- Dercum's disease (multiple lipomatosis).

Clinically:

- Painless, soft and lobulated lump.
- Well-defined edges and skin is free.
- Slipping sign positive.
- Fluctuation and transillumination tests are negative.

Treatment:

- Small asymptomatic – re-assurance
- Symptomatic : surgical excision (if encapsulated), Liposuction (if diffuse).

Neurofibroma

- Tumour of nerve connective tissue (not neurons)
- Types:
 1. Localised or solitary NF.
 2. Generalized multiple neurofibromatosis type 1 (VonRecklinghausen"s disease).
- etc.

Clinically:

- Smooth, firm with well defined edges
- Tenderness and parasthesia may be present (nerve compression).
- Mobility may be diminished along nerve-axis

Rx: excision.



MCQs

Q1- A 25 years old patient presented to the surgical clinic complaining of a painless swelling at the front of the left thigh for 3 years and no other swellings . Examination revealed a spherical, soft, lobulated, non tender lump which is freely mobile in subcutaneous tissue.

The most likely diagnosis is:

- A- lipoma**
- B- sebaceous cyst**
- C- fibroma**
- D- branchial cyst**



MCQs

Q2- A 16 years old girl presented to the clinic with a 2cm painless, cystic swelling lateral to the left eyebrow. it was first noticed 5 years ago and was gradually increasing in size.

The most likely diagnosis is :

- A- Hemangioma**
- B- Abscess**
- C- External angular dermoid**
- D- Ganglion**

Q3- A 22-year-old healthy African-American woman presents with a recurrent growth on her right thigh. She has a childhood history of a third-degree scald burn to the same area that did not require skin grafting. The growth was completely removed 2 years ago. On physical examination there is a 5 cm × 2 cm, raised, irregularly shaped purple lesion with a smooth top.

Which of the following is the most likely diagnosis ?

- A- Malignant melanoma**
- B- Squamous cell carcinoma**
- C- Kaposi sarcoma**
- D- Keloid**

Q4- The most common midline single neck swelling is:

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

Thank You..

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