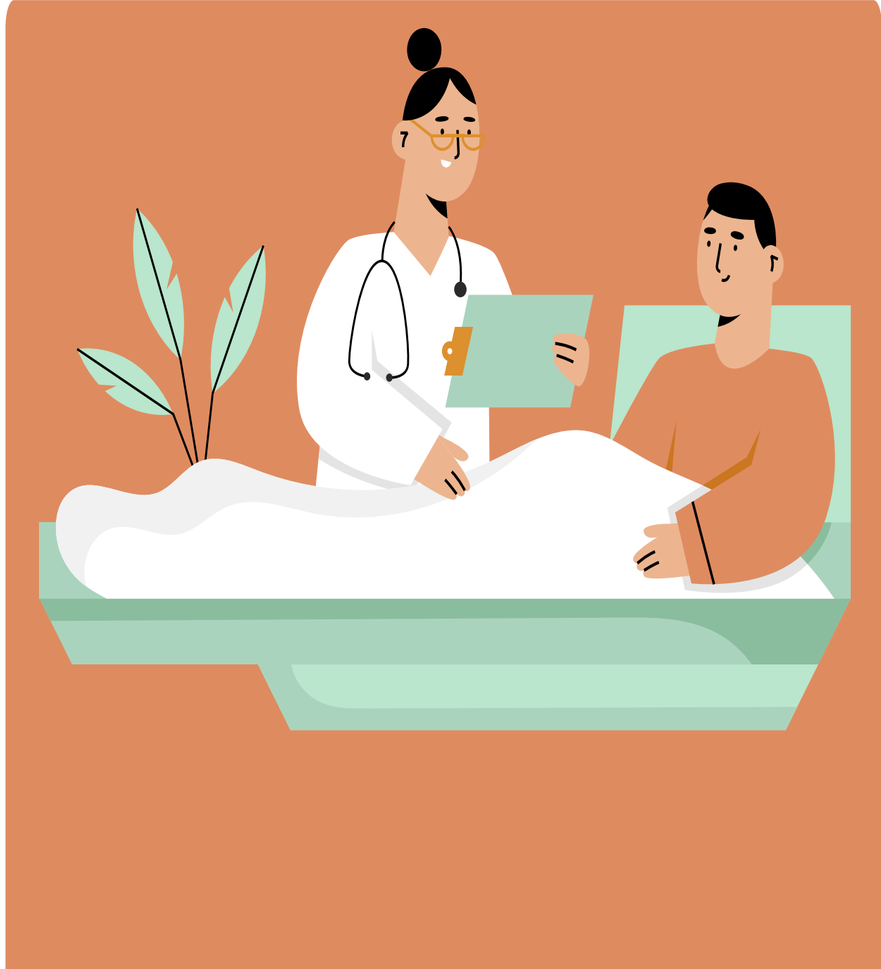
MED437
KING SAUD UNIVERSITY

SURGERY TEAM 437



Skin and soft tissue tumors

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Color Index:

- Important
- Doctor's Notes
- Extra
- Davidson's

Editing File / Feedback

Overview

Functional anatomy

- Weight - 16% TBW
- Surf. Area - 2 sq.m
- Thickness - 0.5 - 4mm
- Layers - Epidermis - Dermis - Subcutaneous Layer

Epidermis

- 5% of the total skin
- Thickness - 0.05 -1mm
- **Different layers [K/S/S/E]**

Stratum corneum
Stratum lucidum there is extra layer in lucidum in (palm,sole)
Stratum granulosum
Stratum spinosum
Stratum basale

- **Cells -**

Keratinocytes
Melanocytes

Dermis

- 95% of the skin.
- Dermis is 15-40 times thicker
- Thickness - 0.6 - 3mm
- 2 layers: papillary & reticular
- Contains - Skin appendages
  contain(hair follicle, sweat gland, sebaceous gland)
- Basement membrane
  -more appendages left after burn more ability to heal
  - a part from the sole, palm and back has the thickest skin in the body.
  - eyelid has thinnest skin in the body.

-

Functions of Skin

1. Barrier to the environment: trauma, radiation, pathogens
2. Temperature and H2o homeostasis
3. Excretion (e.g. urea, sodium chloride, potassium, water)
4. Endocrine and metabolic functions
5. Sensory organ - pain, pressure and movement.
   -the more capillaries in the skin the more the skin able to heal itself

Classifications

Congenital

inflammatory

infective

Cystic

Neoplastic

Vascular

Others

Congenital lesions

Neurofibromatosis (congenital problem that form at the nerve end (fibroma at the nerve end)

- It is tumour arising from connective tissue of the nerve sheath. It can be single or multiple.
- Neurofibromatosis (NF) 1 or von Recklinghausen's disease is the more common variant, affecting approximately 1:4000 births.
- Skin manifestations can appear in early life, with the development of > 5 **smooth-surfaced café-au-lait spots,** armpit or groin freckling & Lisch nodules.

Others

1. Dermoid Cyst at fusion site **commonly in the root of the nose, the forehead or most commonly, adjacent to the lateral brow in the line of fusion of the maxilla and frontal bones (called external angular cysts)**
2. Gorlin's syndrome
3. Xeroderma pigmentosum
4. Gardner's syndrome(Gardner syndrome is an autosomal dominant form of polyposis characterized by the presence of multiple polyps in the colon together with tumors outside the colon)
5. Ferguson-Smith syndrome

Inflammatory lesions

1-HIDRADENITIS SUPPURATIVA can be superimposed

By Infection

Cannot go away easily

- Chronic Inflammatory disease of apocrine sweat glands.
- Common in Axillae and groin.
- Common in females 4 : 1.
- Strongly associated with **obesity** and **smoking**.
- Multiple discharging sinuses, with nodules in the skin which is tender and areas of brownish vacuoles.
- Antibiotics (Clindamycin or Metronidazole)
- Excision of the involved area widely followed by skin grafting or flap**s** (If Abx failed).

2-PYODERMA GANGRENOSUM can be superimposed

By infection

- It is characterized by cutaneous ulceration with purple undermined edges.
- It occurs secondary to heightened, immunological reactivity(like IN IBD), usually from another disease process.
- Cultures from ulcers often grow **Gram- negative streptococci.**

Infective lesions

1- IMPETIGO potential space empty space that can Accumulate abscess

Organisms	It is highly infectious superficial skin infection caused by staphylococci / streptococci organisms. 
Features	-Usually seen in children. -**Formation of multiple blisters that rupture and coalesce, to cover as "honey coloured crust".**
Treatment	Treatment is oral antibiotics and topical antiseptics.

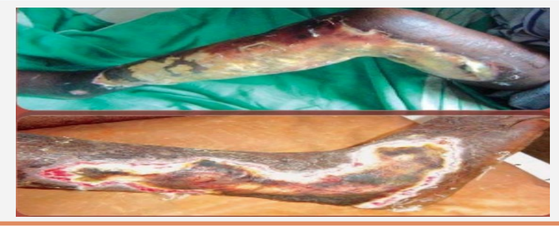
2-ERYSIPELAS

Organisms	This is a sharply demarcated **streptococcal infection** of the superficial lymphatic vessel. 
Features	-Common in young / old. -**Area affected is erythematous & oedematous.** -Febrile and have a leucocytosis. -Erysipelas & Cellulitis **overlap**.
Treatment	Penicillin.

3-CELLULITIS most common infective lesion

Organisms	It is a bacterial (Streptococcus pyogenes) infection of the skin and subcutaneous tissue. 
Features	-Previous skin trauma or ulceration. -**Expanding area of erythematous, oedematous tissue that is painful and associated with a fever & warm skin.** **-Commonly involving the Limbs**
Treatment	Elevation / Antibiotics **(Penicillin (if streptococcus) or Fluoxicilin (IF staph)**/ Dressing.

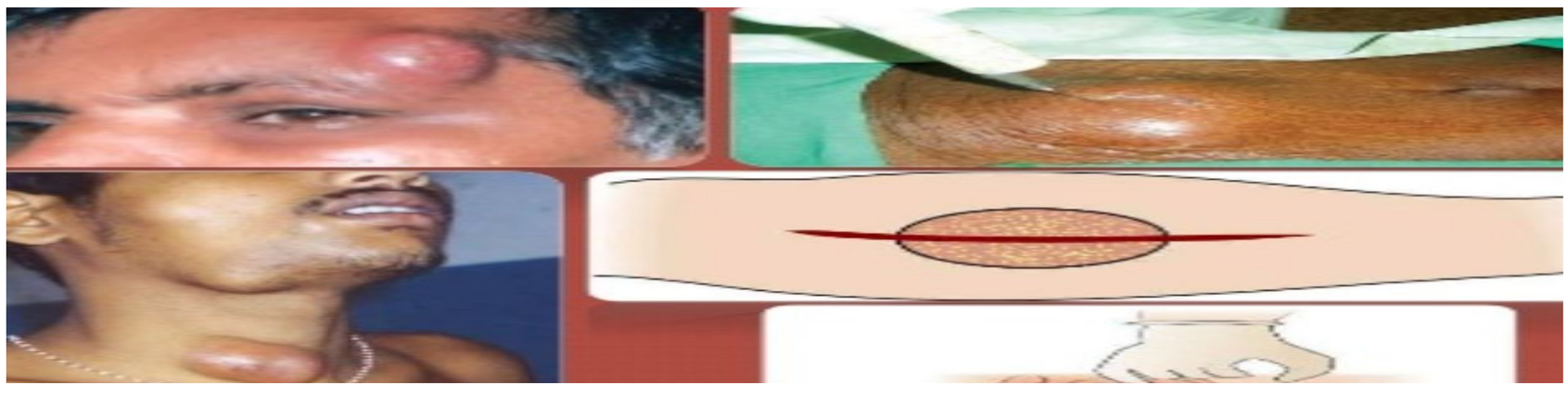
4-NECROTISING FASCIITIS



Organisms	Polymicrobial synergistic infection.
Features	-Surgical emergency. Mortality 30-50% -80% have a history of previous trauma or infection. Begin with strep or staph then Another organism come like clostridium -Rapid progression to septic shock. -oedema, discoloration and crepitus (due to gas production). -Urgent surgical debridement of all necrotic tissue is essential
Treatment	Urgent resuscitation, antibiotics **(combination of broad-spectrum agents against likely pathogens, e.g., carbapenems, clindamycin and metronidazole)** and surgical debridement.

5- ABSCESS

Organisms	Both gram + / - bacteria and **Staphylococcus aureus (most common)**
Features	- It is a localized collection (subcutaneous) of pus in a cavity -What scare us in abscesses if they went into deeper spaces because it would be so difficult to treat them -lined by granulation tissue, covered by pyogenic membrane. -Visible (pointing) **pus, tenderness, fluctuation -features of abscess.** -Sites – anywhere in the body. -Investigations, relevant to specific types. -Complications – Antibioma.
Treatment	Hilton's method of draining an abscess Antibiotics to treat skin Drain for abscess



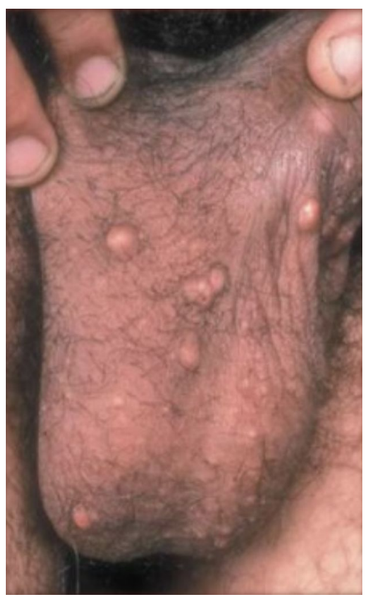
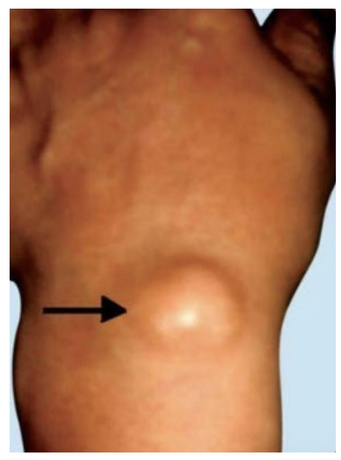
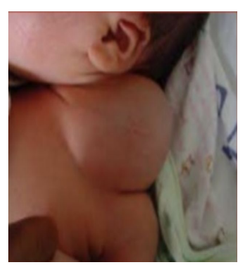
OTHER INFECTIVE LESIONS:

Boil

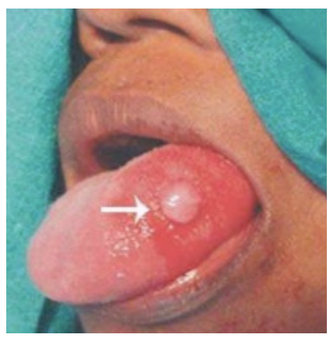
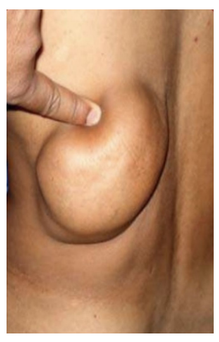
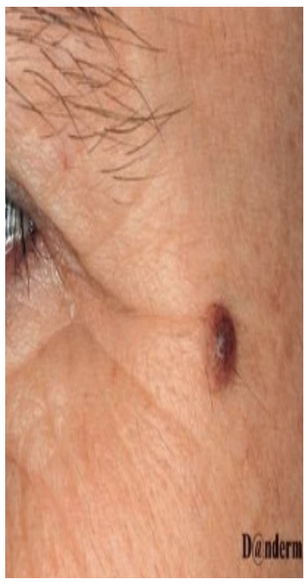
Carbuncle In DM mostly

Pott's puffy tumour

Cystic lesions

SEBACEOUS CYST:	• It is a retention cyst. It is due to blockage of the duct of sebaceous gland, causing a cystic swelling. • Common in face, scalp, scrotum Happen in hairy areas. • **Fixed to the skin and usually have a central punctum** and are often indentable with pressure and Has bad smell. • Treatment depends on the clinical state of the cyst **But usually (surgery)** Inclusion cyst: when you include something That should be outside the body like hair follicles go inside your skin Retention cyst: something should not been inside it stays inside. No punctum, sebum get accumulated	  
GANGLION: (collection of fluid) Happen due to weakness in joint Fixed come out from joint Mobile come from tendon	• It is a cystic swelling occurring in relation to tendon sheath or synovial sheath or joint capsule. • Site – Dorsum of wrist most common due to weakness in the dorsal wrist capsule. • Cystic degeneration – tendon sheath . • Well localised / Restricted mobility. • Asymptomatic – left alone. • **Excision excise the stalk** – Firm crepe bandage. • High recurrence rate – 30%. GANGLION Pain is usually indacted through compression to the surrounding structure (joint capsule, nerve) (pain with movement)	  Pus won't transilluminate Clear jel transilluminate
OTHERS:	• Lymph cyst • Milia(are tiny epidermoid cysts that are benign and keratin-filled) • Bursa • Parasitic cyst • Haematoma	     

Benign lesions

PAPILLOMA: Nodular region Pathognomic Usually they're not pigmented	• Benign overgrowth of basal layer of epidermis. • Common – elderly / Sites – face, trunk & tongue. • Raised, soft, well demarcated brown lesion. The surface may be smooth, velvety, or verrucous. • Most have a "stuck-on"مطب appearance and waxy texture. The surface tends to crumble when picked. Very imp • Bleeding / ulceration / infection / malignancy. • Excision / Curettage / Cryosurgery.	  
PAPILLARY WART:	• These are patches of overgrown skin with hyperkeratosis. • More common in children / adolescents / young adults. • It may be familial but often stimulated by virus. [HPV] • Sites – fingertips / face / axilla / sole of the feet. • They are dry / painful and disfiguring. • Repeated rubbing may cause infection. It can spread to other finger & other parts. • It can persist for long time or disappear spontaneously.	  
LIPOMA:	• The most common benign tumour. • Universal / Ubiquitous tumour. • Occur anywhere – except Brain. • Sites & Types. • It can be diffuse / localized. • Mobile / Slips / Semi-fluctuant / Non-transilluminant. • Single / Multiple. • Complications.(Subcutaneous lipomas are primarily cosmetic issues. Lipomas in other locations may cause luminal obstruction or hemorrhage) • Excision.	  
MOLES/NAEVI	• Moles (melanocytic naevi) as they are due to a proliferation of melanocytes. • Moles may be flat or protruding. They vary in colour from pink to dark brown or black. • The number of moles a person has depends on genetic factors and on sun exposure. • Melanocytic naevi may be present at birth (congenital) but more usually begin to grow during childhood although new ones can appear at any age.	 

What are the red flag signs in Lipoma that might indicate LIposarcoma and need investigation?
Size more than 5 cm,Irregular margin, check the lymphoma, infiltrating the surrounding tissue, change recently and more than 2 cm .
Imp note: cell of origin for sarcoma → mesenchyma

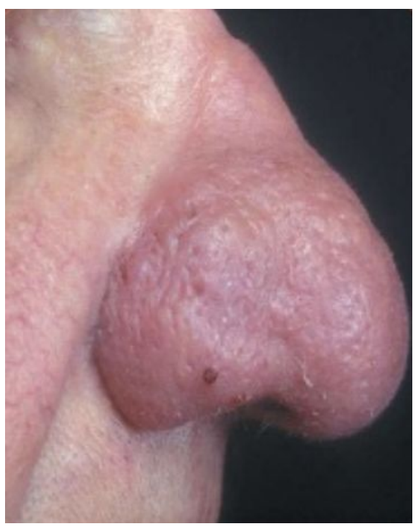
Cont.. Benign lesions

Cont.. MOLES/NAEVI

- Types / variants:
  According to the location there are different lesions:
  - Junctional naevus between dermis and epidermis
  - Compound naevus
  - Intradermal naevus
  - Spitz naevus
  - Spindle cell naevus
  - Halo naevus
  - Dysplastic naevus
  - Naevus spilus
  - Naevus of Ota & Ito
  - Blue naevus
    -the more pigmented your skin the more you are protected from certain type of cancer
    -melanoma is a disease of caucasians, northern european when they go to sunny areas

SKIN ADNEXAL TUMOURS(Dr skipped them)

- Tumours arising – acc. Skin structures - sweat glands / hair follicle
- Less common
- Protrudes as well – localized swelling in skin
- **Syringoma:** Raised / pedicled lesions
- **Hidradenoma:** Blue cystic nodules
- **Tricholemmoma:**
  - Hamartoma from hair follicle
  - Can turn into BCC – 10%
- **Trichoepithelioma:**
  - Usually seen – nasolabial fold
  - Presents as small cut. Nodule
- **Rhinophyma:**
  - Rhinophyma is an end-stage sequela of acne rosacea.
  - It is hypertrophy and hyperplasia of the sebaceous glands and tends to affect elderly men (male to female ratio 12:1).
  - Nose is bluish red in colour with dilated capillaries.
  - Up to 3% of cases may have an occult BCC.
  - Treatment by dermabrasion or laser resurfacing produces good results.

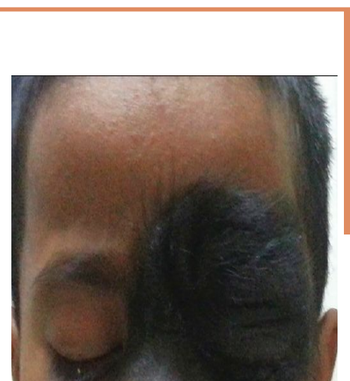


Congenital melanocytic nevi: It can be large (over 20 cm) and are known as giant hairy naevi, which are associated with a significant risk of malignant degeneration. We try to excise it early in life and do skin grafting.

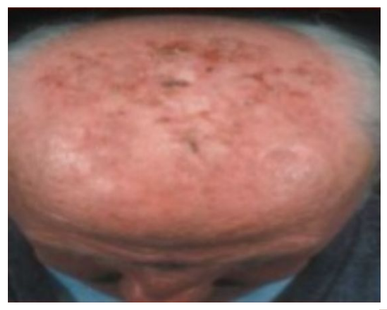
■Risk for malignant melanoma 0.07%-2%

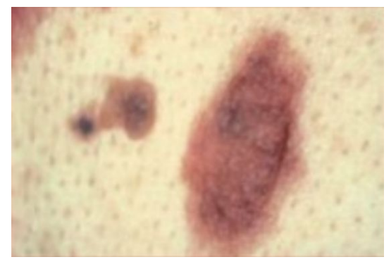
Excision is indicated if a mole shows:

1. An increase in pigmentation.
2. Irregular color or border.
3. Itching or bleeding.
4. If it looks different from the others - the “ugly duck” sign.



Pre-malignant lesions






- Actinic Keratosis / Solar Keratosis
- Bowen's disease of skin
- Cutaneous horn / Chronic scars
- Dysplastic Naevus Erythroplasia of Queyrat /
- Extramammary disease of Paget
- Giant Naevus [GCPN]
- Keratoacanthoma: ■Appear most commonly in the sixth decade.

■Course of the lesions:

1. They typically grow rapidly over 2-3 months from a small red papule to a large hemispherical nodule with a friable keratin core.
2. Growth ceases for a similar period of time before the lesion regresses spontaneously.

■Huge nodule with central ulceration.

■This lesion can be confused with squamous cell carcinoma because of its clinical and histological appearance, and for this reason simple excision is most often recommended

Malignant lesions

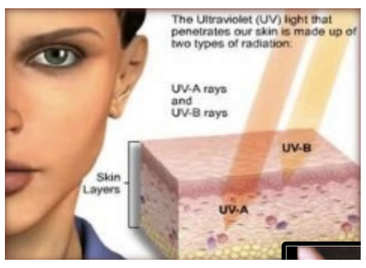
Basal cell carcinoma (BCC) mostly benign

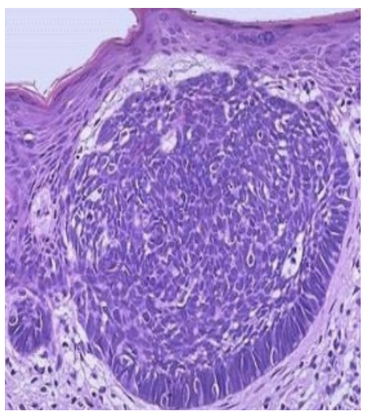
Mostly happens in nose, eyelid and face

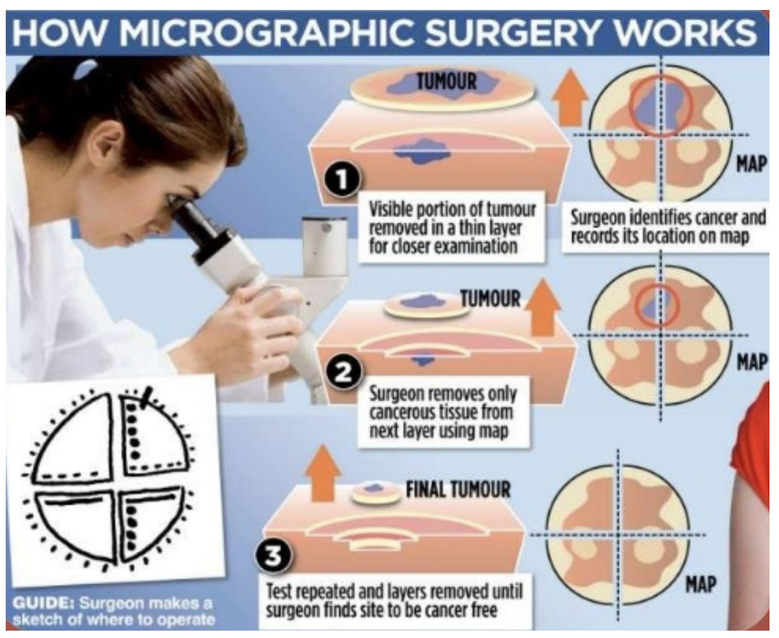
Major predisposing factor is sun exposure

Happen in H and T area of face (sun exposure area)

- It is a slow-growing, locally invasive malignant tumour arising from basal epidermis and hair follicles.
- Pre-disposing factors. It occurs in the middle-aged or elderly.
- 90% of lesions found on the **face** above a line from the lobe of the ear to the corner of the mouth.
- BCC risk factors UV rays Middle aged, men White skin(Caucasian), genetics Arsenics, coal , tar
- Localised (nodular, nodulocystic, cystic, pigmented and naevoid)
- Generalised can be superficial (multifocal or superficial spreading) or infiltrative (morphoeic, ice pick and cicatrising).
- Nodular and nodulocystic - 90% of BCCs.
- There are 'high-risk' and 'low-risk' BCCs. High-risk BCCs are (> 2 cm).
- Ovoid cells in nests with outer 'palisading' layer.
- **Rarely metastasise.**
- Never lymphatic spread.
- Radiosensitive
- Wide excision(safety margin) (2 cm clearance) with skin grafting or flap is the procedure of choice. Laser surgery.
- Topical – 5 Fu.
- Cryosurgery.
- MOHS (Microscopically Oriented Histographic Surgery)
- Treatment:
  - Moh's surgery like laparoscopic to minimize excising surrounding tissue
    You remove area which is deep
  - Excision of skin cancer under microscopic control.
  - Minimise recurrent rates with maximum conservation.
  - Indicated in Poorly demarcated Recurrent / incompletely excised Near vital structures=when safety margin isn't there
  - Can also be used for SCC, lentigo maligna / DFS

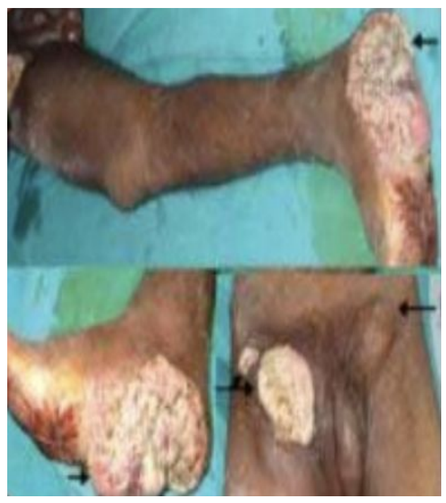



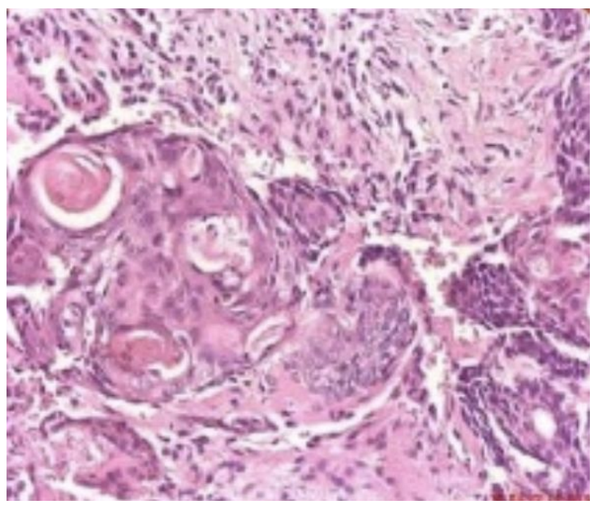
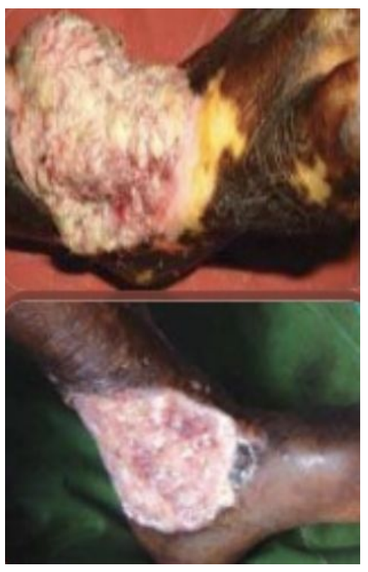



Cont.. Malignant lesions

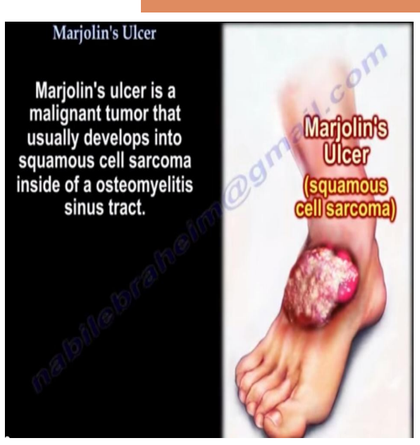
Squamous cell carcinoma (SCC) goes to centerd lymph node

- It arises from squamous layer of the skin.
- 2nd most common tumor
- Usually - elderly – men.
- SCC is also associated with chronic inflammation & immunosuppression.
- SCC may vary from smooth nodular to verrucous, papillomatous **& ulcerating lesions.**
- Marjolin's ulcer
- Risk factors: Sun exposure, Chemical carcinogens, HPV 5 & HPV 16, Tobacco use, Scars and sinuses
- Keratin pearl – onion skin
- Perineural / vascular invasion
- Broder's histological grading
- Regional lymph nodes are commonly involved but blood spread does not occur.
- TNM Classification:
  - Size
    - T1 - <2 cm
    - T2 - 2-5 cm
    - T3 - >5cm
    - T4 - muscle or bone involvement
  - Nodes
    - N0 - no regional nodes
    - N1 - regional nodes
  - Metastasis
    - M0 - no metastasis
    - M1- distant metastasis
  - Grade •
    - G1- low grade
    - G2- moderately differentiated
    - G3- high grade
- Surgical excision
  - < 2cm - 4mm clearance
  - > 2cm - 1cm clearance
- Radiotherapy
- Chemotherapy – Methotrexate / Vincristine / Bleomycin
- Amputation
- Field therapy


- ❖ **Marjolin's ulcer:** This represents malignant degeneration within a pre-existing scar or chronic inflammatory lesion with an average latency period of around 30 years. The incidence is highest in **old burn scars followed by osteomyelitic wounds; however, they also occur in areas of venous insufficiency and on pressure sores.**
- **The lesions are typically slow to develop and metastasise late but are very aggressive thereafter.**
- **Treatment involves excision and appropriate reconstruction.**



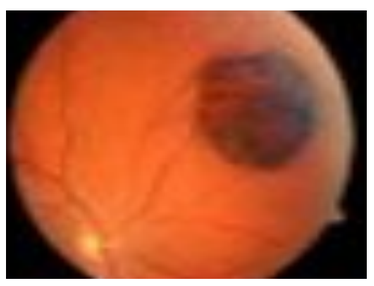
Cont.. Malignant lesions

Melanoma most aggressive

- Melanoma is a tumour arising from the epidermal melanocytes.
- Can arise in skin, mucosa, retina & the meninges. .
- Most likely naevi to form MM are the junctional & compound types
- Risk factors (PIGMENT) :Premalignant lesions , Previous melanoma,| Age , Race , Fitzpatrick type1 and type 2, Sunburn and sunbed use,|**Giant congenital** Naevi .



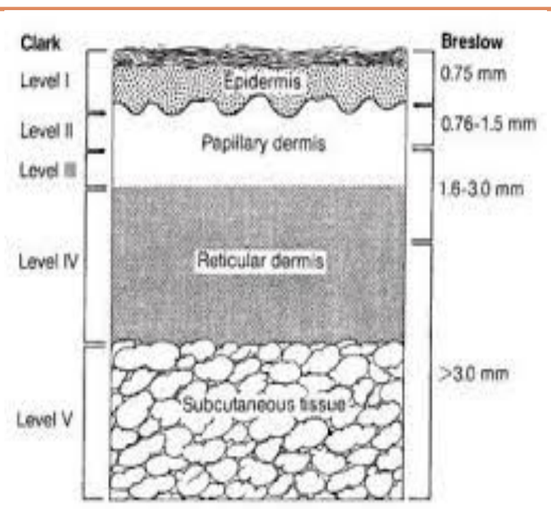


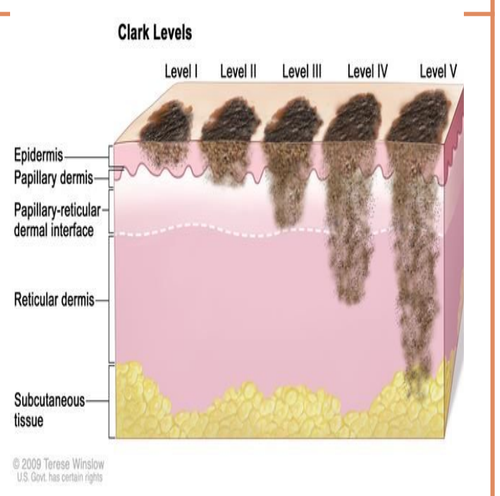



Classification

1. Clark's
2. Breslow;s
3. AJCC :

- T T N.S
- Thin < 1 mm < 10%
- I.M 1-4 mm 20-5%
- Thick > 4 mm 60%

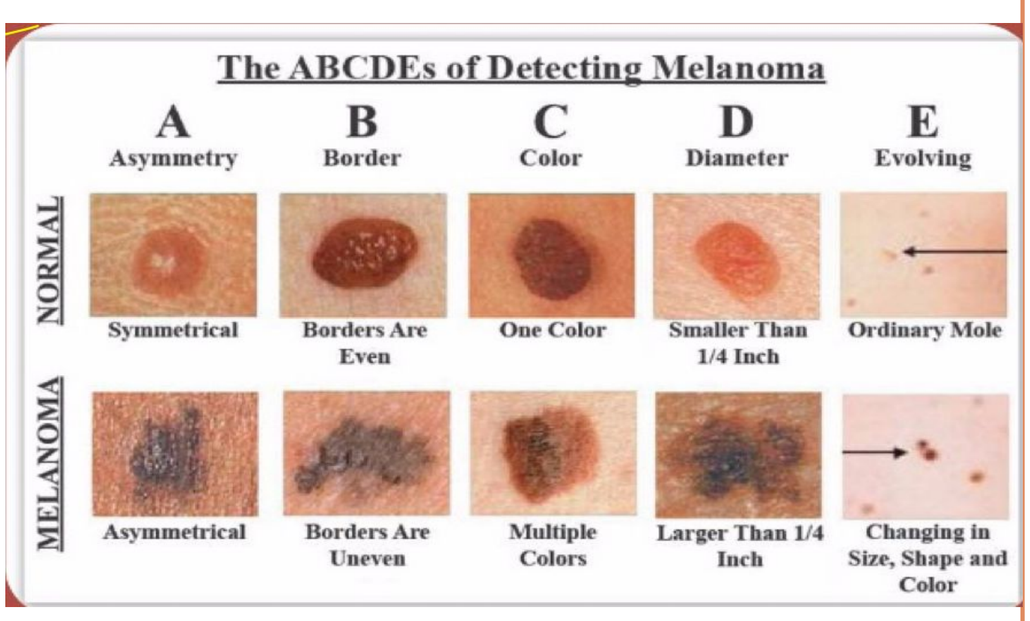




Features- Naevi suggestive - MM

- Tingling
- Itching
- Serosanguinous discharge
- Doppler + lesions >1mm
- Satellite lesions

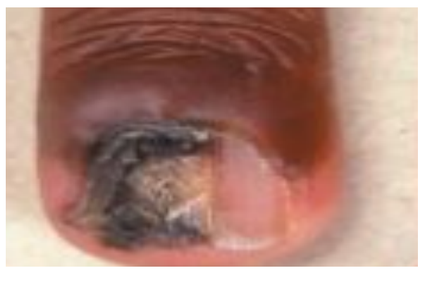
Don't skip the figure its Imp!
If any of ABCDE is present you have To consider possibility of cancer.



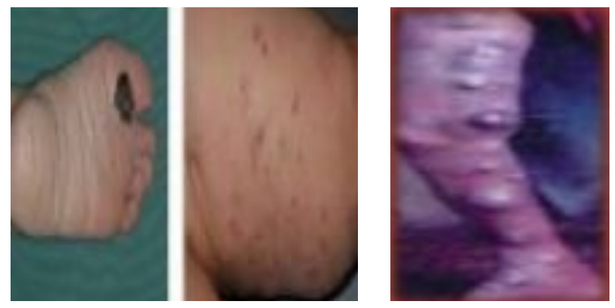
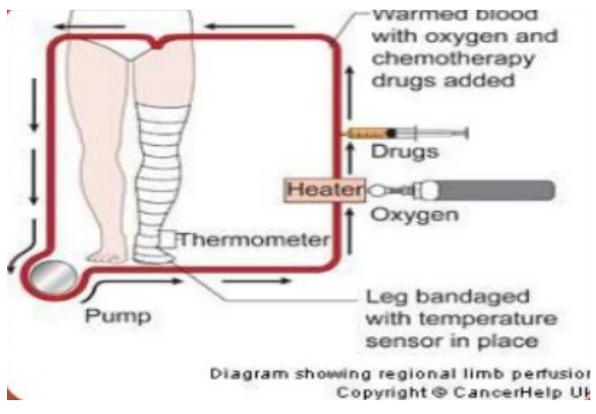
Types

1. Superficial spreading 65-70% / Most common
2. Nodular Melanoma 15-30% / Most aggressive
3. Lentigo maligna 5-15% / Less common
4. Acral lentiginous 5% / Least common
5. Amelanotic **melanoma Worst type**
6. Desmoplastic melanoma Peri-neural invasion



Malignant lesion -MM

Spread	Local spread (Satellite nodules) Lymphatic spread (Transit nodules) Distant spread-Blood 
Tumor Markers	-MELAN-A -S 100 -LDH -HMB 45 (Hydroxy Methyl bromide
Investigations	**No incision biopsy** **Excision biopsy (If small lesion or suspicion is high)** **Punch biopsy FNAC of Lymphnode (If its large lesion or suspicion is low)** U/S - abd Chest X-ray SLNB
Staging (TNM) Not size based it is **depth based**	Melanoma TNM Classification T classification / Thickness / Ulceration Status/Mitoses Tis / N/A / N/A T1 / ≤ 1.0 mm / a: w/o ulceration and mitosis <1/mm² ; b: with ulceration or mitoses ≥ 1/mm² T2 / 1.01 - 2.0 mm / a: w/o ulceration ; b: with ulceration T3 / 2.01 - 4.0 mm / a: w/o ulceration ; b: with ulceration T4 / > 4.0 mm / a: w/o ulceration N0 / 0 nodes / N/A N1 / 1 node / a: micrometastasis* ; b: macrometastasis** N2 / 2-3 nodes / a: micrometastasis* ; b: macrometastasis** ; c: in-transit met(s)/satellite(s) without metastatic nodes N3 / 4 or more metastatic nodes, or matted nodes, or in-transit met(s)/satellite(s) with metastatic M0 / 0 sites / N/A M1a / Distant skin, subcutaneous, or nodal mets / Normal M1b / Lung metastases / Normal M1c / All other visceral metastases / Normal Any distant metastasis / Elevated *Micrometastases are diagnosed after sentinel lymph node biopsy and completion lymphadenectomy if performed). **Macrometastases are defined as clinically detectable nodal metastases confirmed by therapeutic lymphadene
Primary Treatment	**Hardley's (WLE):** **Margin & Depth** **In-situ (Depth) = 0.5cm(Margin)** **< 1mm(Depth) = 1cm(Margin)** **1-2mm(Depth) = 1-2cm (1.5cm) (Margin)** **> 2mm(Depth) = 2-3cm (Margin)** 
Secondary Treatment	# Lymphatic mapping & SLNB # Palpable mobile L.N - If FNAC + ⟶ Regional Block dissection is done # Fixed L.N - only CT because it is inoperable. # Elective lymph node dissection (ELND) 
Other Modalities	❑ Isolated limb perfusion therapy ❑ Laser ablation ❑ Chemotherapy (DTIC [Dacarbazine}, Melphalan,CVD) ❑ Immunotherapy / Biotherapy ❑ Radiotherapy 

Vascular lesions arterial, venous and lymphatic

Hemangioma regress by 2-12 years

Only if it affect structure start treatment especially the eyes!

It is a benign endothelial tumour seen commonly in children. (Girls)
They may go unnoticed at birth or be evident as a faint 'herald' patch. Start here
It grows rapidly in first year & slowly 70% involution in 7 yrs.
Common in head & neck region (60%).
Large haemangiomas may be associated with visceral anomalies.
Ulceration / bleeding / airway block and visual disturbances -complications.
Majority of haemangioma require no specific treatment

Well demarcated affect the eye

Congenital

Salmon Patch	Strawberry naevus	Port-wine stain
		

Acquired

Campbell de Morgan spots		Spider naevi	
Pyogenic granuloma		Glomus Tumor	
Angiosarcoma		Kaposi Sarcoma	

Other lesions

Hypertrophic Scars

- Occurs anywhere in the body.
- Not genetically predisposed.
- It is limited to the scar tissue only.
- **It will not extend to normal skin.**
- It is pale brown in colour, not painful, nontender.
- Often self limiting also.
- It responds very well for steroid injection.
- Recurrence is uncommon.

  -Start to grow in until stage of apoptosis
  -Dermis is collagen elastin

Keloids

- Genetically predisposed.
- Often familial.
- Common site – sternum and ear .
- It continues to grow even after 6 months – years.
- **It extends into adjacent normal skin.**
- It is brownish black/pinkish black (due to vascularity) in colour, painful, tender and sometimes hyperaesthetic.
- Recurrence – very high – 50%.
- Treatment – various methods.

  No negative pathway continuous deposition of collagen

Ulcers

- **Non-specific**

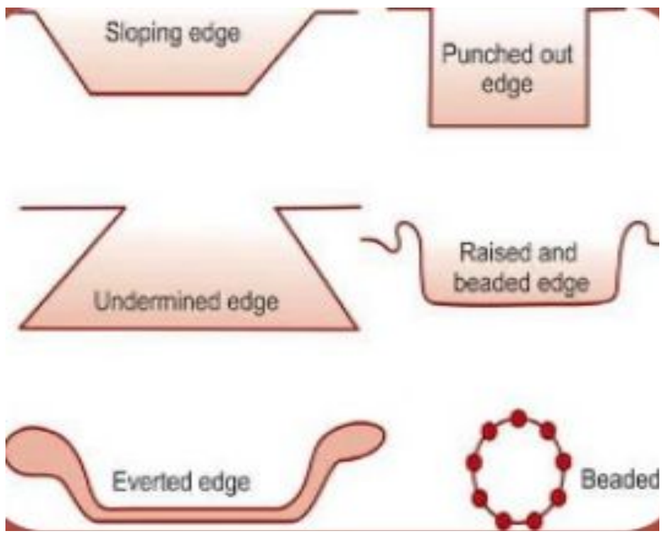
  Traumatic - Neuropathic - Gravitational - pressure sores - Ischaemic - Secondary Infective - Iatrogenic - Dermatitis artefacta - Aphthous - Peptic

- **Specific**

  Primary Infective

- **Malignant**

  GIT/Skin



Surgical Recall:

What are the most common skin cancers?1. Basal cell carcinoma (75%) - 2. Squamous cell carcinoma (20%) - 3. Melanoma (4%)
What is the most common fatal skin cancer? Melanoma

MELANOMA

What is it? Neoplastic disorder produced by malignant transformation of the melanocyte; melanocytes are derived from neural crest cells
Which patients are at greatest risk? White patients with blonde/red hair, fair skin, freckling, a history of blistering sunburns, blue/green eyes, actinic keratosis,
What are the three most common sites? 1. Skin 2. Eyes 3. Anus (T ink: SEA Skin, Eyes, Anus)
What is the most common site in African Americans? Palms of the hands, soles of the feet (acral lentiginous melanoma)
What characteristics are suggestive of melanoma? Usually a pigmented lesion with an irregular border, irregular surface, or irregular coloration,Other clues: darkening of a pigmented lesion, development of pigmented satellite lesions, irregular margins or surface elevations, notching, recent or rapid enlargement, erosion or ulceration of surface, pruritus
What are the "ABCDs" of melanoma? Asymmetry_Border irregularity_Color variation_Diameter 6 mm and Dark lesion
What are the associated risk factors? Severe sunburn before age 18, giant congenital nevi, family history, race (White), ultraviolet radiation (sun), multiple dysplastic nevi
How does location di er in men and women? Men get more lesions on the trunk; women on the extremities
Which locations are unusual? Noncutaneous regions, such as mucous membranes of the vulva/vagina, anorectum, esophagus,& choroidal layer of the eye
What is the most common site of melanoma in men? Back (33%)
What is the most common site of melanoma in women? Legs (33%)
What are the four major histologic types? 1. Super cial spreading_ 2. Lentigo maligna_ 3. Acral lentiginous_ 4. Nodular
Define the following terms:

- Super cial spreading melanoma: Occurs in both sun-exposed and non-exposed areas; most common of all melanomas (75%)
- Lentigo maligna melanoma:Malignant cells that are super cial, found usually in elderly patients on the head or neck Called "Hutchinson's freckle" if noninvasive Least aggressive type; very good prognosis Accounts for 10% of all melanomas
- Acral lentiginous melanoma:Occurs on the palms, soles, subungual areas, and mucous membranes Accounts for 5% of all melanomas(most common melanoma in African American patients; 50%) - Nodular melanoma:Vertical growth predominates Lesions are usually dark Most aggressive type/worst prognosis Accounts for 15% of all melanomas
- Amelanotic melanoma: Melanoma from melanocytes but with obvious lack of pigment

What is the most common type of melanoma? Superficial spreading (75%) (Think:SUPERficial SUPERior)
What type of melanoma arises in Hutchinson's freckle? Lentigo maligna melanoma What is Hutchinson's freckle? Lentigo maligna melanoma in the radial growth phase without vertical extension (noninvasive); usually occurs on the faces of elderly women

SQUAMOUS CELL CARCINOMA

What is it? Carcinoma arising from epidermal cells
What are the most common sites? Head, neck, and hands
What are the risk factors? Sun exposure, pale skin, chronic inflammatory process, immunosuppression, xeroderma pigmentosum, arsenic
What is a precursor skin lesion? Actinic keratosis
What are the signs/symptoms? Raised, slightly pigmented skin lesion;ulceration/exudate; chronic scab; itching
How is the diagnosis made? (Small lesion—excisional biopsy)-(Large lesions—incisional biopsy)
What is the treatment? Small lesion (, <1 cm): Excise with 0.5-cm margin Large lesion (>1 cm): Resect with 1- to 2-cm margins of normal tissue (large lesions may require skin graft / flap)
What is the dreaded sign of metastasis? Palpable lymph nodes (remove involved lymph node basin)
What is Marjolin's ulcer? Squamous cell carcinoma that arises in an area of chronic inflammation (e.g., chronic fistula, burn wound, osteomyelitis)
What is the prognosis? Excellent if totally excised (95% cure rate); most patients with positive lymph node metastasis eventually die from metastatic disease
What is the treatment for solitary metastasis? surgical resection

BASAL CELL CARCINOMA

What is it? Carcinoma arising in the germinating basal cell layer of epithelial cells
What are the risk factors? Sun exposure, fair skin, radiation, chronic dermatitis, xeroderma pigmentosum
What are the most common sites? Head, neck, and hands
What are the signs/symptoms? Slow-growing skin mass (chronic,scaly); scab; ulceration, with or without pigmentation, often described as "pearllike"
How is the diagnosis made? Excisional or incisional biopsy
What is the treatment? Resection with 5-mm margins (2-mm margin in cosmetically sensitive areas)
What is the risk of metastasis? Very low (recur locally)

MISCELLANEOUS SKIN LESIONS

What is an Epidermal Inclusion Cyst? EIC Benign subcutaneous cyst filled with epidermal cells (should be removed surgically) filled with waxy material; no clinical difference from a sebaceous cyst
What is a sebaceous cyst? Benign subcutaneous cyst filled with sebum (waxy, paste-like substance)from a blocked sweat gland (should be removed with a small area of skin that includes the blocked gland); may become infected; much less common than EIC
What is actinic keratosis? Premalignant skin lesion from sun exposure; seen as a scaly skin lesion (surgical removal eliminates the 20% risk of cancer transformation)
What is seborrheic keratosis? Benign pigmented lesion in the elderly; observe or treat by excision (especially if there is any question of melanoma), curettage, or topical agents
What is Bowen's disease of the skin? Squamous carcinoma in situ (should be removed or destroyed, thereby removing the problem)
What is "Mohs" surgery? Mohs technique or surgery: repeats thin excision until margins are clear by microscopic review (named after Dr. Mohs)—used to minimize collateral skin excision (e.g., on the face)

Other lesions- Sinus/Fistula

Sinus	1. Sinus – It is a blind track (hidradenitis) lined by granulation tissue leading from an epithelial surface into the surrounding tissues. 2. Means – “Hollow” or “a bay” [Latin]
Fistula	1. Fistula – It is an abnormal communication between the lumen of one viscus to another or the body surface or between the vessels. 2. Means – “flute” or “a pipe or tube”

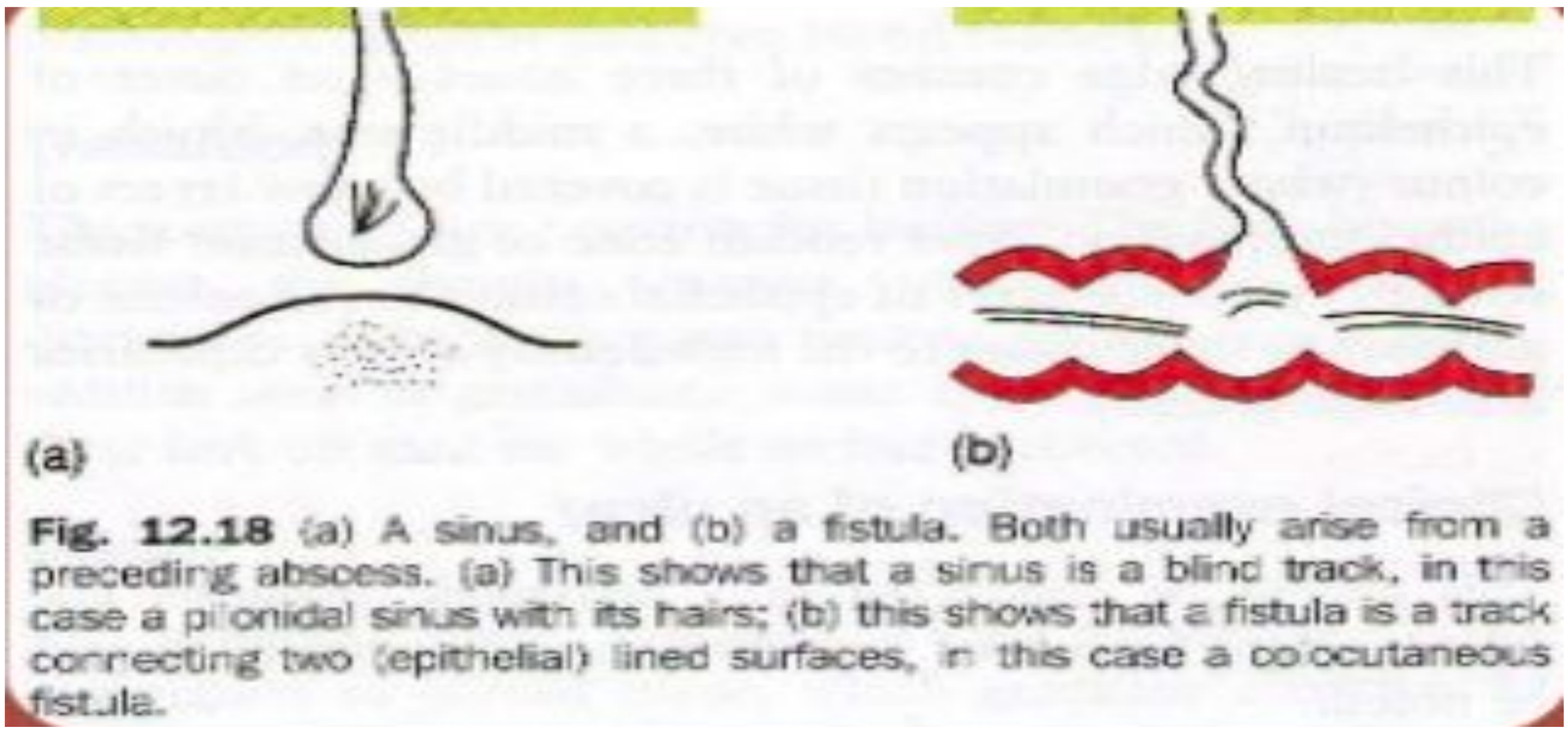


Fig. 12.18 (a) A sinus, and (b) a fistula. Both usually arise from a preceding abscess. (a) This shows that a sinus is a blind track, in this case a pilonidal sinus with its hairs; (b) this shows that a fistula is a track connecting two (epithelial) lined surfaces, in this case a coccutaneous fistula.

Sinus base usually necrotic excise	
Congenital	Acquired
Pre-auricular	Post-surgical
Umbilical	Pilonidal
Urachal	Suture
coccygeal	Specific – TB / Crohn’s
Sacral	Actino. / Osteomyelitis

Fistula	
Congenital	Acquired
T-O-F	Post-surgical
Branchial	Fistula-in-ano
	E C F
	A V F

Summery

Congenital lesions	**neurofibromatosis**	• It is tumour arising from connective tissue of the nerve sheath. • Skin manifestations can appear in early life,
Inflammatory lesions	**Hidradenitis suppurativa**	• Chronic Inflammatory disease of apocrine sweat glands. • Common in Axillae and groin. • *Treatment:* Antibiotics.+Excision of the involved area widely followed by skin grafting or flaps.
	Pyoderma gangrenosum	• It occurs secondary to heightened, immunological reactivity, usually from another disease process. • Cultures from ulcers often grow Gram- negative streptococci. • *Treatment:* steroids+Surgery is rarely indicated.

Infective lesions				
impetigo	**erysipelas**	**cellulitis**	**Necrotising fascitis**	**abscess**
• highly infectious superficial skin infection. • *Caused by* :staphylococci / streptococci organisms. • *Treatment:* is oral antibiotics and topical antiseptics.	• infection of the superficial lymphatic vessel. • *Caused by :* Streptococcal organisms • Febrile and have a leucocytosis. • *Treatment :*Penicillin.	• infection of the skin and subcutaneous tissue. • *Caused by :* Streptococcus pyogenes • painful and associated • with a fever & warm skin. • *Treatment :* Elevation / Antibiotics / Dressing.	• Polymicrobial synergistic infection. • Rapid progression to septic shock. • *Treatment :* Urgent resuscitation, antibiotics and surgical debridement.	• It is a localized collection of pus in a cavity lined by granulation tissue, covered by pyogenic membrane. • *Caused by :* Both gram + / - bacteria. • *Treatment :* Hilton's method of draining an abscess

Cystic lesions

SEBACEOUS CYST	ganglion
• It is a retention cyst. It is due to blockage of the duct of sebaceous gland, • Common in face, scalp, scrotum. • Fixed to the skin and usually have a central punctum. • *Treatment :* depends on the clinical state of the cyst.	• It is a cystic swelling occurring in relation to tendon sheath or synovial sheath or joint capsule. • *Treatment :* Asymptomatic – left alone. Excision – Firm crepe bandage.

Benign lesions

PAPILLOMA	PAPILLARY WART	LIPOMA	MOLES/NAEVI	SKIN ADNEXAL TUMOURS
• Benign overgrowth of basal layer of epidermis. • *Sites :* face, trunk & tongue. • Most have a "stuck-on" appearance and waxy texture. • *Treatment :* Excision / Curettage / Cryosurgery.	• These are patches of overgrown skin with hyperkeratosis. • It may be familial but often stimulated by virus. [HPV] • *Sites :* finger tips / face / axilla / sole of the feet. • *Treatment :* It can persist for long time or disappear spontaneously.	• The most common benign tumour. • *Sites :* Occur anywhere – except Brain. • *Treatment :* Excision.	• Moles (melanocytic naevi) as they are due to a proliferation of melanocytes. • The number of moles a person has depends on genetic factors and on sun exposure.	• Tumours arising – acc. Skin structures - sweat glands / hair follicle • **Syringoma** • **Idradenoma** • **Tricholemmoma** • **Trichoepithelioma** • **Trichoepithelioma** • **Rhinophyma**

Malignant lesions

Melanoma	• Melanoma is a tumour arising from the epidermal melanocytes. • Classfications : Clark's ,Breslow;s ,AJCC . • Superficial spreading 65-70% / Most common type . • Tumor markers : MELAN-A,-S 100 ,LDH,HMB 45 (Hydroxy Methyl bromide) • Excision biopsy ,Punch biopsy FNAC of LN, U/S , abd+ Chest X-ray, SLNB • *Treatment :* Hardley's (WLE)
Basal cell carcinoma (BCC)	• malignant tumour arising from basal epidermis and hair follicles. • 90% of lesions found on the face • Radiosensitive • *Treatment :* Wide excision (2 cm clearance) with skin grafting or flap is the **procedure of choice.**

Questions

1-Which of the following is accurate about the types of cutaneous malignant melanoma?

A. The most common type of melanoma is nodular.
B. Mucosal melanomas mostly associated with a poor prognosis and recurrence after treatment.
C. Lentigo maligna (LM) is regarded as the most invasive form of melanoma.
D. Desmoplastic melanomas (DMs) are considered as the most aggressive type.

2- Which part of the body is most commonly affected by Basal Cell Carcinoma?

A. Face
B. Hands
C. Legs
D. Abdomen

3- Which of the following methods cannot be used for the diagnosis of melanoma?

A. Excision biopsy
B. Incisional biopsy
C. Punch biopsy
D. CXR

4- Tricholemmoma can turn into which type of malignant skin cancer?

A. Melanoma
B. Squamous cell carcinoma
C. Basal cell carcinoma
D. It's always benign

5- 70 year old male of Caucasian origin developed an ulcer on the right side of his forehead which was slowly growing over 5 years. What is the most likely diagnosis?

A. Squamous cell carcinoma
B. Melanoma
C. Basal cell carcinoma
D. Keratoacanthoma

6- A 60-year old farmer, who is a tobacco smoker, developed an ulcerating lesion of his lower lip, which came out to be malignant after taking a biopsy Which of the following is the most likely primary diagnosis?

A. Marjolin ulcer
B. Squamous cell carcinoma
C. Basal cell carcinoma
D. Keratoacanthoma

7- A patient with scar following a burn presented later with a malignant tumor in the same area. What is the most likely type of cancer she developed?

A. Squamous cell carcinoma
B. Basal cell carcinoma
C. Melanoma
D. Fibroma

Answers:

1. B
2. A
3. B
4. C
5. C
6. B
7. A