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ulcer

• Def.<sup>n</sup> :- It is define as a break down in continuity of tissue / skin occur due to Microscopic death of tissue.

- ulcer occur in every part of body, oral cavity, penis, duodenum / intestine etc.

\* Character of ulcer

- ulcer has

  1. edges
  2. floor
  3. Base

I. Edges :-

- Edges of ulcer is give a diagnostic clue bet.<sup>n</sup> spreading ulcer & non-spreading ulcer.

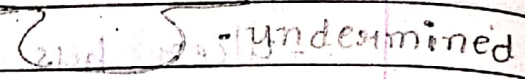
A. spreading ulcer :- inflammed & oedematous edges.

B. Healing ulcer :- Red granulation tissue & blue zone.

• Types :- 5 common type of edge

i) undermined edge :-

- seen in TB
- more destruction of subcutaneous tissue than the skin.
- Thin, friable, Reddish & unhealthy edge.



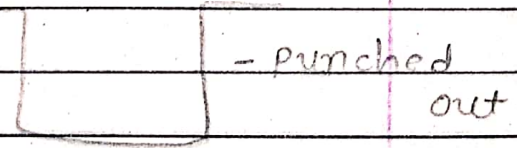
ii) Everted edge :-

- seen in squamous cell carcinoma.
- edge grow very rapidly, occupy normal skin & get elevated.



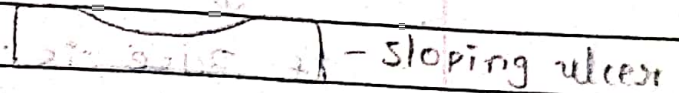
iii) punched out edge :-

- seen in gummatous ulcer
- seen in syphilitic ulcer
- self limited ulcer, generally not spread.



iv) sloping edge :-

- seen in healing ulcer
- Traumatic ulcer, venous ulcer are the type of edge.



v) Raised edge :-

- seen in Rodent ulcer
- seen in Basal cell carcinoma



2. floor :-

- Exposed surface of ulcer
  - careful examination of floor
- Indicate :-

A. Healing ulcer :- Red, granulation.

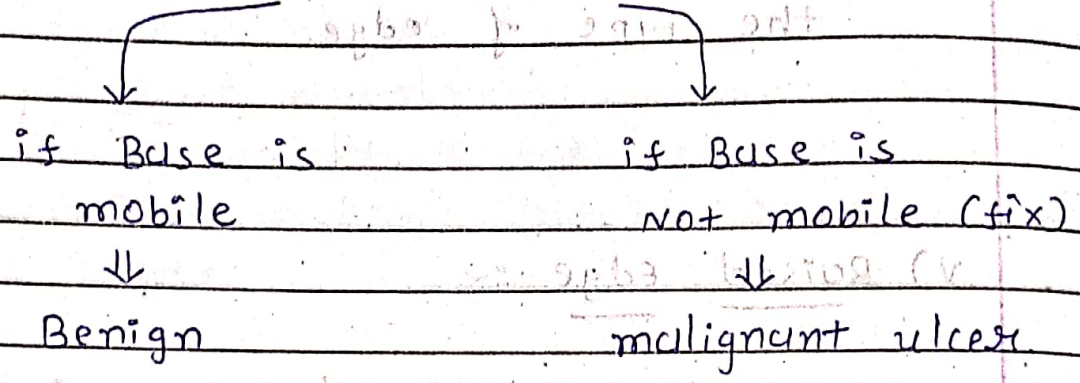
B. slow Healing :- pale, smooth granulation tissue.

C. gummatous ulcer :- slough form in floor (spreading)

D. malignant ulcer :- Blackish floor.

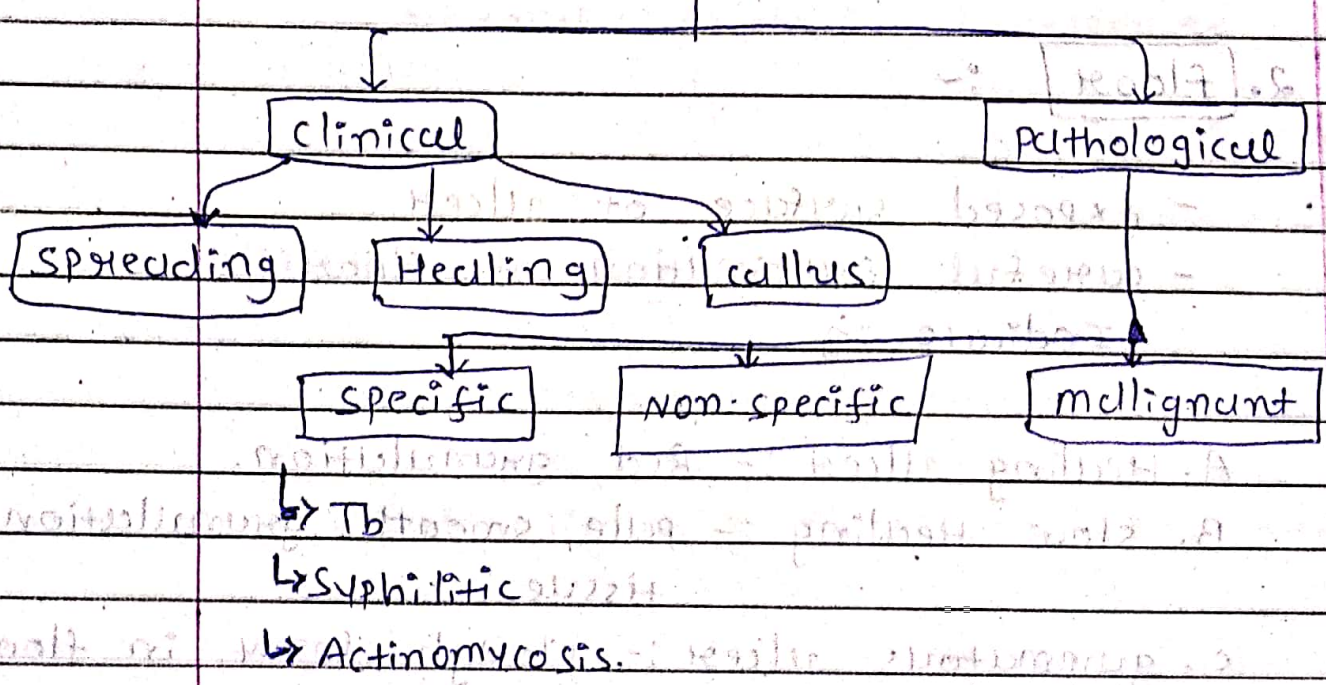
3. Base :-

- Base is felt by putting finger on bottom of thumb on top.



\* classification \*

- Broadly classify into 2 Types :-



\* clinical classification \*

→ 1. spreading :-

- edge surrounded by inflammation & oedema.
- floor => slough, pale.

→ 2. Healing :-

- edge :- Red, granulation & blue zone.
- floor :- oedema & inflammation absent.

→ 3. callus :-

- floor :- pale granulation
- Induration of base & surrounded skin
- No tendency toward healing

\* pathological classification \*

→ 1. Non-specific ulcers

\* A. Traumatic ulcer :-

- ulcer develop due to direct / indirect injury
- oral ulcer due to biting by teeth is classical exam.

- character  $\Rightarrow$  small, circular, painful
- do not become chronic.
- Heal quickly.

\* B. Arterial ulcer

- occur due to Arterial occlusion, Ischemic, Blockage, direct injury to artery.

- mostly due to peripheral vascular dz  
Atherosclerosis.

- seen in lateral aspect of leg.
- pain is the most prominent c/o.
- $\bar{c}$  Intermittent claudication  $\bar{c}$  discoloration of one/more toes.

\* C. Venous ulcer

- occur due to obstruction in vein  
i.e. varicose vein, post-thrombotic ulcer & gravitational ulcer.

- great saphenous vein  $\Rightarrow$  medial side ulcer
- short saphenous vein  $\Rightarrow$  lateral side ulcer.

\* D. Neurogenic ulcer :-

- occur due to neurological condition.

such as => peripheral Neuropathy

- spinal bifida, leprosy

- Diabetic foot.

- peripheral N. injury

- Location =>

i) when pt. non-ambulatory

↳ seen in Buttock & Back.

ii) when pt. is ambulatory

↳ seen on Heel, foot

\* E. Infective ulcer :-

- occur due to infection of bacteria, virus / other organism.

- pyogenic ulcer is the type of ulcer.

\* F. Tropical ulcer :-

- seen in tropical country

- occur due to Vincent's organism like

B. fusiform & Bacteria Vincentii

↓

- 1<sup>st</sup> develop into pustule & extensive infla.<sup>n</sup>

- This pustule burst & spread rapidly.

- floor => slough & seropurulent discharge



\* G. Mortoni's ulcer :-

- Rare ulcer
- Generally seen in hypertensive pt
- severe pain, ischemic patches.
- later develop into → punched out ulcer.

\* H. Bazin's ulcer :-

- Rare ulcer
- It exclusively occur in young females
- Erythrocytosis frigida
- vessels are extremely sensitive to Temperature

- In hot weather ⇒ Ankle become hot, oedematous, swollen & painful
- In cold ⇒ Blue, cold & tender

\* J. Diabetic foot (ulcer).

- seen in diabetic pt
- occur due to Ischemia due to diabetic atherosclerosis.
- Diabetic neuropathy also causes ulcer.

site ⇒ toes, feet, leg also affected.

→ 2. Specific ulcers :-

A. Tuberculous ulcers

- oval in shape & irregular border.
- undermined edges
- floor => granulation tissue
- Base => indurated base

B. Syphilitic ulcers

- painless, chancre are formed
- edge => punched
- In primary stage => develop at face
- secondary => mucocutaneous lesion
- Tertiary => venereal & extragenital  
- gummatous lesion are form.

C. Actinomyces

- multiple ulcers are formed.
- nodule, soft & ulcerate.
- induration & bluish colour of skin surrounding the ulcers.

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→ 3. Malignant ulcer

- malignant ulcer are ↓

A. Rodent ulcer

B. Basal cell carcinoma

C. Squamous cell carcinoma

- spread rapidly, life threatening

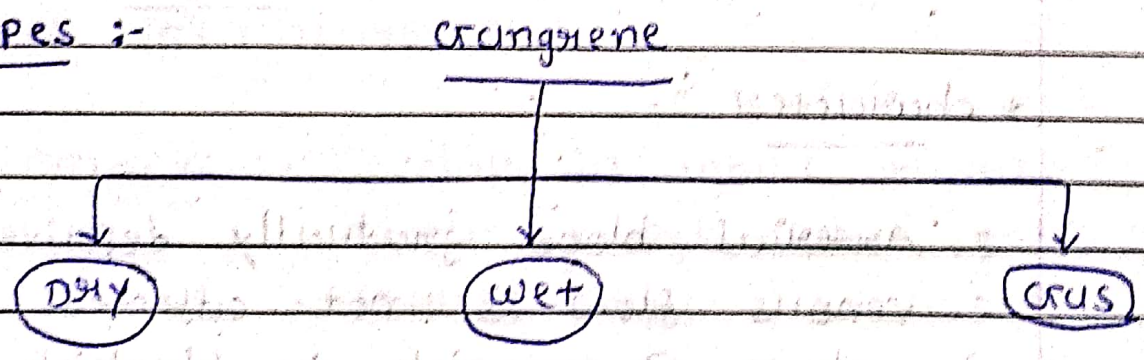
• Gangrene \*

• Def.<sup>n</sup> :- Gangrene is define as a necrosis of tissue & super added putrefaction occur due to ischaemia.

- Must remembered that gangrene is not just necrosis but there is always putrefaction occur.

-> Pathogenesis is depend upon type.

• Types :-



I) Dry Gangrene :-

\* Location :- distal part of limb  
- Toes, Ankle, foot etc.

\* causes :- A. It occur due to occlusion in A.

- gradually occlusion occur

- Thrombosis
- Embolism
- Thrombongitis
- Atherosclerosis

B. Direct trauma to Artery.

C. Indirect trauma to Artery.

\* Pathogenesis :-

occlusion in Artery

↓  
Ischemic condition.

↓  
Tissue will die by means of  
Necrosis ⇒ gangrene.

\* Character :-

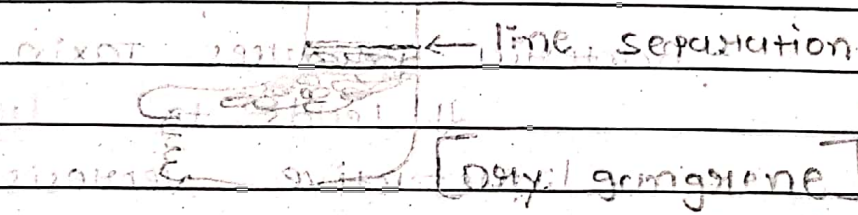
1. Arterial blood gradually deprived
2. venous flow is not affected
3. colour ⇒ greenish to blackish  
↳ due to haemolysis
4. affected part is dry, sunken
5. Resemble as mummy.
6. Line separation seen.  
↳ It differentiate dead tissue from living  
↳ line form until adequate blood supply does not meet.

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\* Following condition causes dry gangrene \*

1. Burget's Dz
2. Diabetic gangrene
3. Raynaud's Dz
4. senile gangrene



2) wet gangrene :-

\* Location :- Develop in moist tissue

- mouth, Lungs, Vulva, cervix
- Bowel, etc

\* causes :-

- A. sudden occlusion of vein / artery
- B. venous obstruction  $\Rightarrow$  Deep Vein Thrombosis
- C. Infection
  - $\hookrightarrow$  carbuncle, gangrene of scrotum
- D. physical gangrene
  - $\hookrightarrow$  heat  $\Rightarrow$  Burn & scald
  - $\hookrightarrow$  cold  $\Rightarrow$  frost bite
  - $\hookrightarrow$  electricity

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\* pathogenesis :-

- occlusion of vein  $\bar{c}$  Bacterial infection
- ↓
- occlusion produces Ischemia
- ↓
- Bacteria produces toxin
- ↓ leads to
- liquefactive necrosis
- ↓
- Thus, in wet gangrene oozing also seen.

\* characteristics -

1. Affected part is moist & oedematous
2. colour  $\Rightarrow$  dark red, green, purple
3. horrible odour  $\Rightarrow$  due to putrefaction
4. line separation  $\Rightarrow$  usually not seen
5. Affected part  $\Rightarrow$  cold, pulseless, swollen.

\* following condition lead wet gangrene \*

1. bed sore
2. Acute inflammation
3. Long standing venous Thrombosis

\* Treatment :-

1. General T/t :-

- control Diabetes; nutritional diet, Relief of pain

2. Local T/t :-

A. affected part keep dry

↳ keep fan near the part.

B. part elevate => Reduce pain

C. Avoid heat

D. protect from pressure

E. changes in gangrenous part should be observe.

3. Surgical T/t :-

A. Amputation :-

i) limb saving aspect

↳ gangrene is develop progressively

↳ for save whole limb affection

amputation is necessary.



ii) life saving aspect :-

↳ Badly crushed limb / rapidly spreading gangrene

↓

for whole limb preservation by amputation

- most gangrene mostly treat by it.

↳ Arterial Surgery :-

- when occlusion of artery occur.

- Thrombus, embolus & Atherosclerotic plaque should be removed by surgery.

3) Gas gangrene :-

- Highly fatal, rapidly spreading caused by clostridial organism

\* Location :- mostly affect muscle

\* causes :- clostridial organism such as

- clostridium welchii

- clostridium septicum

\* mode of transmission :-

A. Those wound cause heavily contaminated & soil, foreign body.

B. who have had lower limb amputation performed for Ischemic gangrene.



Infection can occur own Bowel.

C. Endogenous => pt's own fecal matter.

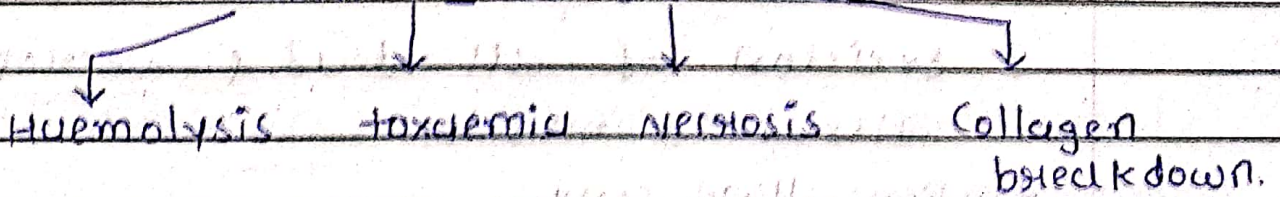
\* pathogenesis :-

- After entering into body (Bac.)



- Bacteria multiply & produces powerful

TOXIN & causes



- also break cement sub<sup>m</sup> of muscle

It leads to

inflammation, oedema, muscle necrosis

\* Characteristics :-

1. severe pain & oedema
2. sickly & sweet odour
3. colour changes of muscle
4. khaki coloured skin
5. low grade fever
6. vomiting, ↑ pulse rate

\* Pre-cution :-

1. Avoid Tourniquet while managing.
2. Avoid compression of blood.
3. All dead tissue, Bone piece, foreign material should be evacuated.

\* Treatment :-

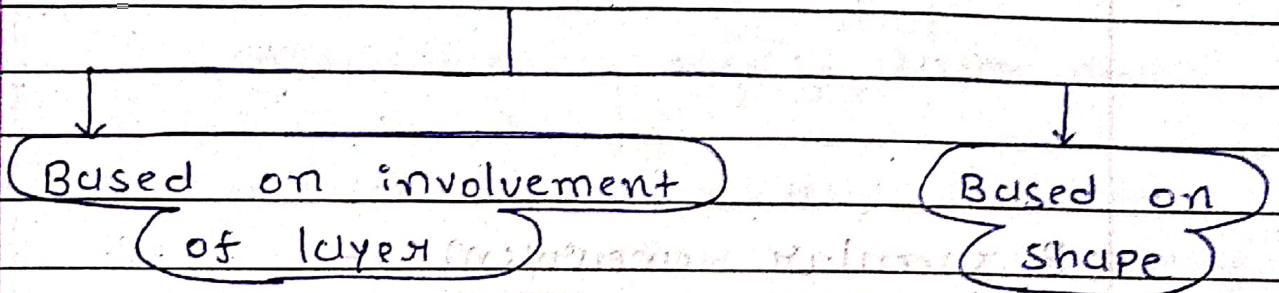
1. excision of all dead & necrotic tissue & muscle.
2. Penicilline cont.
3. Blood Transfusion
4. poly-valent anti-gas gangrene serum.
5. hyper-baric  $O_2$  ⇒ ↓ toxin

- Inj. of penicilline, 10-20 lakh unit is used as prophylaxis against gangrene.

\* Aneurysm \*

• Def.<sup>n</sup> :- Localised dilatation of segment of arterial system is known as aneurysm.

• classification :-



1. Based on involvement of layer :-

A. True => Include all 3 layers of arterial wall

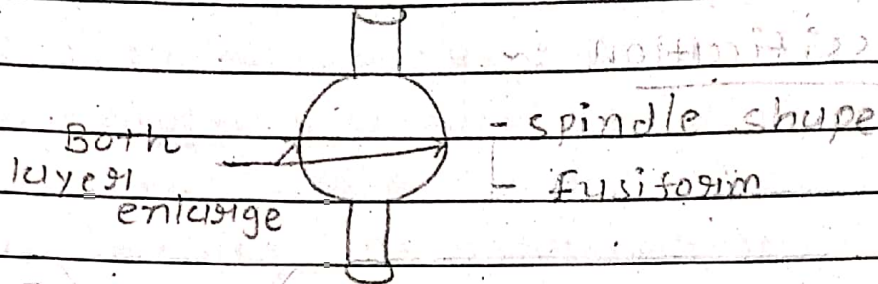
B. False => Aneurysm include only a single layer of artery.

C. Arteriovenous => In this type artery & vein communication causes aneurysm.

2. Based on shape :-

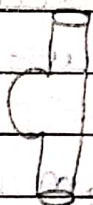
A. fusiform Aneurysm :-

- Dilatation of artery occur uniformly
- spindle shaped enlargement.
- Both layers of A. expand at time



B. saccular aneurysm

- A part of artery wall expanded.
- Aneurysm seen caused by trauma.



C. Dissecting Aneurysm :-

- This type of aneurysm formed by,
- Atheromatous plaque force tunica Intima
- ↓
- Enter into inner Tunica media.

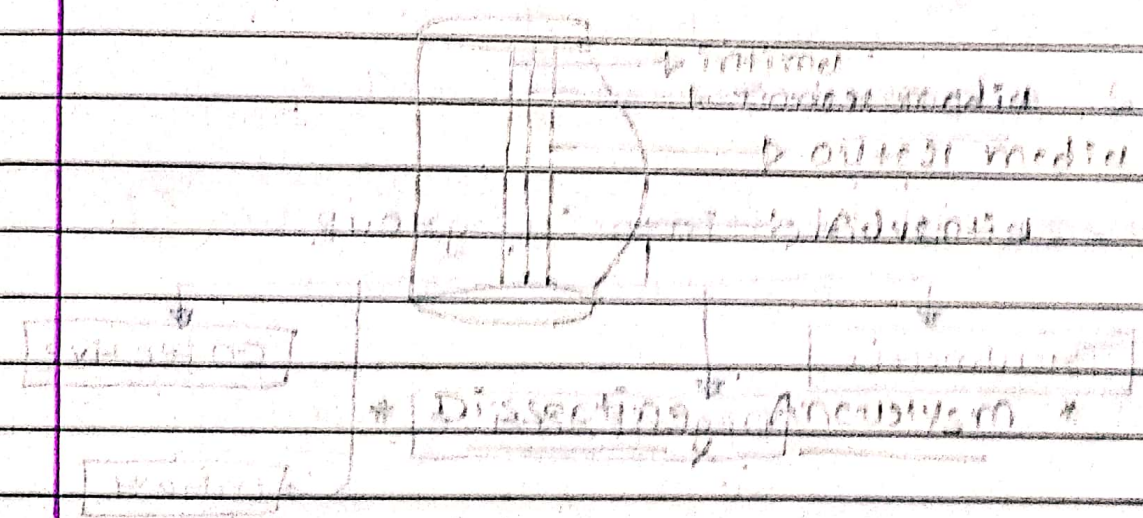
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↓  
i) Inner tunica media & intima  
↳ get nourished from diffused blood.

ii) Outer tunica media & tunica adventitia  
↳ get nourished from vaso vasorum

↓  
= split bet<sup>n</sup> inner & outer media.

↓  
= cleft in a artery & dilate occur: anastomosis part of artery.



• Etiological factors in ~

- 1. congenital
- 2. Acquired

I. congenital in ~

A. congenital weakness of elastic lamina  
In cerebral blood vessel.

↓

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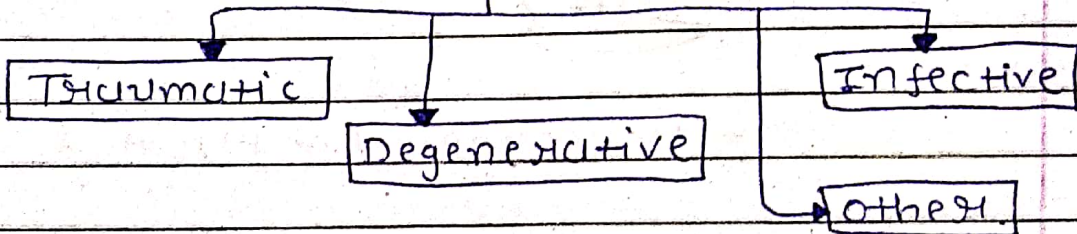
known as "Berry Aneurysm"

B. A circoid Aneurysm is a type of aneurysm consisting of dilated pulsating serpiginous vessel seen.

- C. congenital arteriovenous fistula
- D. Marfan syndrome & Ehler-danlos syndrome
- E. congenital arteriovenous fistula

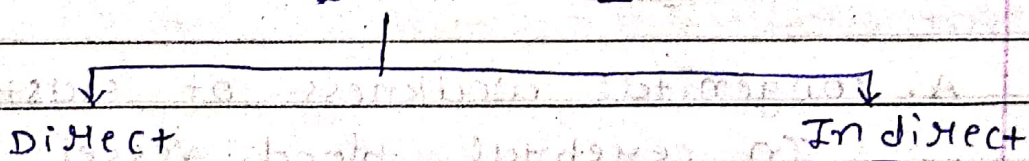
2. Acquired :-

- It divide into 4 group.



A. Traumatic :-

- All types of traumatic aneurysm is false & fusiform.



- Penetrating wound causes aneurysm

- Indirect trauma causes aneurysm

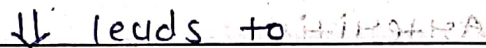
B. Degenerative Aneurysm :-

i) Atherosclerosis :-

- commonest cause of aneurysm
- generally seen in 60 to 70 around age
- more common in men than woman.
- seen in abdominal Aorta & pop. Artery.



- Atherosclerosis causes degeneration of elastic & muscular fibre



- Dilatation of vessels

ii) Mucoid degeneration in arterial wall causes aneurysm

C. Infective Aneurysm :-

- Any infection causes Aneurysm is called as Infective Aneurysm.

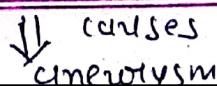


i) Syphilitic Aneurysm

- In tertiary syphilis vaso vasorum become obstructed.



- Impaired nutrition of tunica media.





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- seen in carotid artery
- fusiform type

ii) Bacterial aneurysm

= staphylococcus & streptococcus infection

D. Other :-

- i) complication of sub-acute endocarditis
- ii) Arteritis
- iii) Aneurysm also seen in those with artery & underlying peptic ulcer

• Clinical feature :-

1. Dull pain at affected part.
2. if Aneurysm ruptured & large haematoma form.

- severe bulging pain.

3. Severe pain

4. Referred pain => Due to pressure on sensitive

5. In case of pop. Artery aneurysm of femoral vein => palpable mass

6. pop. aneurysm of femoral artery causes Ischemia

↓  
- Black, swollen blue & painful limbs.

7. gangrene of foot / toes also seen.

• Effect :-

1. pressure on neighbouring structure

- Dilatation of vessel create pressure on surrounding structure.

on vein

↓  
- oedema of limb  
↓  
- seen in Aortic aneurysm

on Nerve

↓  
- altered sensat<sup>n</sup>  
↓  
- pain, Numbness, Tingling & Paralysis  
- Referred pain.

on Bones

↓  
- erosion of Bone  
↓  
vertebral aneurysm

on adjacent organ

- esophagus => dysphagia  
- stomach => Hematemesis

2. Thrombosis
3. embolism
4. Ischemia
5. Infection
6. Rupture => causes collection of blood

↓  
Death occur

• Dx :-

1. Blood.

A. cholesterol level

B. for syphilis => WR & Kahn Test

2. X-ray

3. Angiography.

• D/D :-

1. swelling over an artery

2. swelling under an artery

3. abscess

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T/t :-

1. Arterial Ligation
2. wiring of aneurysm sac.
3. wrapping of aneurysm
4. Bypass & Exclusion grafting
5. Bypass & Excision grafting
6. Excision & end to end suturing.

\* Tetanus \*

• Def<sup>n</sup> :- It is define as a serious bact. infection causes painful muscle spasm & can causes death.

- It is caused by clostridium tetani.

• clostridium tetani :- gm<sup>+</sup> Bac.

- Rod shape bacilli
- Drum stick appearance
- 0.5  $\mu$ m in size
- arrange in single chain
- flagellate
- motile
- Non capsulated.

• Incubation period :-

- 3 days to 3 weeks
- Avg. 7 days.

• mode of transmission :-

- C. tetani is widely distributed Bac.

↓

- mainly transmitted by contaminated wound.

1. In case of penetrating wound by nail, splinter & horn.
2. Dirty abrasion may leads to tetanus.
3. chronic leg ulcer, Boil.

↓

This facilitate transmission of Bac.

Other :-

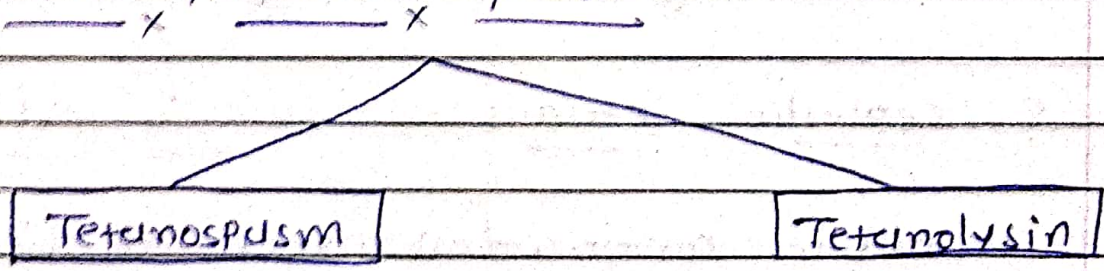
1. Tetanus Neonatorum :-  
- Transmit through cut surface of umbilical cord.

2. Post - abortive Tetanus :-  
- During labour / abortion uses of contaminated surgical instrument.

3. Post - operative Tetanus :-  
- uses of un-sterile instrument

4. Subcutaneous Infection of an irritant drug

• Toxin produces by Bac. :-



• Types :- Divide into following types,

1. Acute tetanus :-

- Symptoms develop rapidly
- Incubation period less than 10 days

2. Chronic Tetanus :-

- Symptoms develop few times later of infection
- Incubation period more than 15-30 days

3. Latent Tetanus :-

- organism remain latent in the wound after some time when immunity of body decreases then it will react.

4. Local tetanus :-

- contracture of muscle occur around the neighbourhood of wound.

5. Cephalic tetanus :-

- muscle contraction seen in head & neck.
- It causes paralysis of cranial nerves.

### 6. Bulbar Tetanus :-

- In this condition muscle spasm occur extensively. (Spec. deglutination & Respi. muscle)

### 7. Tetanus neonatorum :-

- Tetanus occur around 6-8 days after birth due to contamination of u. cord.

### 8. Tetanus abortal :- (puerperal tetanus)

- Tetanus occur after abortion due to complication / puerperal sepsis

### 9. Post-operative Tetanus :-

- Tetanus occur after operation due to uses of unsterile instrument.

### 10. Otitis tetanus :-

- Due to chronic suppurative otitis media.

### • Pathogenesis :-

- From above any way Bac. can enter into body.





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- After entering it produces two types of toxin

Tetanolysin

Tetanospasms

- is a haemolysin.

- is a neurotoxin.

- Destruction of Blood cells.

- Bac. produces neurotoxin & reach up to grey matter of CNS

By Blood stream

By Lymphatic vessel

By motor ending of nerve

- This neurotoxin act on both pre-synapse & post-synapse

- Inhibit GABA

- Inability to impulse pass

- propagation of impulse all over CNS & body.

- muscle Rigidity & spasm.

↓

- c is known As "Tetanus"

• C/F :-

1. The most earliest symptom of tetanus is Trismus / Locked Jaw.

↓

- whenever c. tetani infection occur it 1<sup>st</sup> causes Rigidity of facial muscle.

- in trismus stiffness of neck, back & abdomen occur.

2. Dysphagia

3. Dyspnea

4. Anxious expression

5. ↑es - body Temp.

6. Tachycardia

7. generalise convulsion

8. ↓es Breathing capacity

9. cyanosis

10. Anemic state

11. from neck & back whole body, Extremities are undergoing tonic & clonic spasm.

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• prophylaxis :-

1. Active Immunization
2. Passive Immunization

• T/t :-

1. general T/t :-

A) Admit the pt. into quite, dark & well ventilated Room.

B) wound care :

- clean the wound w. steriline / dettol Antiseptic.
- use sterile Instrument for suturing.
- Remove necrose tissue & foreign body.

C) 0.5 ml TT given Im.

D) Anti-biotic :-

- penicilline  $\Rightarrow$  IV 10 lakh unite 6 hrly.

- Along  $\bar{c}$  metronidazole  $\Rightarrow$  500 mg IV 8hr

$\epsilon$ ) human anti-tetanus globulin.

- 3 to 4 thousand unit IV

2. special  $\times$  T/t

- Depend upon severity.

A) In very severe case

- when whole body undergoing tonic & clonic spasm.

- dysphagic & dyspneic settle up

$\Downarrow$

i) 40 mg Tubocurarine  $\Rightarrow$  IV

act as a muscular relaxant.

ii) sedation of pt.  $\Rightarrow$  for prevention of generalised spasm

iii) Tracheostomy  $\Rightarrow$  facilitate Respiration

iv) Nasogastric feeding  $\Rightarrow$  for dysphagic.

v) along  $\bar{c}$  IV fluid & electrolytes.

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B) moderate case :-

- when whole muscle are not affected,  
only locked jaw like symptom produce

↓

- i) Nasogastric feeding
- ii) Tracheostomy
- iii) Iv fluid
- iv) Associate & general management

C) In mild case :-

- where only tonic rigidity occur  
& not dysphagia

- pt. should sedated & diazepam  
(5 to 40 mg Iv) -

for prevention of generalised spasm

\* homoeopathic medicine

- Belladonna, Nux vom., hypericum,  
& mag phos.

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• cause of death  
— x — x —

1. Lung complication :-

- Bronchopneumonia
- Aspiration of pharyngeal content into lung
- Spasm of Respi-muscle cause, airway obstruction => death.

2. Drug intoxication :-

- sedative drug intoxication can causes death i.e. Barbiturate.

3. Anaphylactic Reaction.

4. severe anemia => coma

\* Varicose vein \*

• Def<sup>n</sup> :- when any vein & due to any reason become elongated, dilated & Tortuous called as varicose vein.

• Common site for varicosis :-

1. lowest limb 
 < long saphenous varicose vein  
 short saphenous " "
2. oesophagus => oesophagus varices.
3. varicosity of Rectal vein => Haemorrhoid.
4. varicosity of spermatic vein => varicocele.

• varicosity of lowest limb :-

\* surgical anatomy :-

- vein & drain blood from lowest limb are
  - i) superficial vein
  - ii) deep vein
  - iii) perforating vein

1) superficial vein :-

- These vein are lying bet<sup>n</sup> the skin & deep fascial.
- They are sub-divide into.

A. short saphenous

B. long saphenous

A. short saphenous vein :-

- course :- Begin behind the lat. malleolus.
  - Run upward laterally along the lat. border of tendo-achilles.
  - Then Run along the midline bet<sup>n</sup> two head of gastrocnemius.
- ↓
- Terminate into pop. vein.

• valve :- 7 to 13 valves.

B. Long saphenous vein :-

- longest vein in body.

- course :- Begin from medial malleolus.
  - Run upward medial along the medial border of tibia.

↓

- Here, Run behind the medial condyle of femur along the medial side of Thigh & terminate into saphenous opening.

• valve :- 10 to 20 valves.



• Branches :-

i) Near lower thigh :-

- Lat. superficial vein
- medial superficial vein
- Transverse " "
- Transverse patellar vein.

ii) Near the leg :-

- Ant. vein of leg
- post. vein of leg

iii) Near the saphenous opening :-

- ~~Lat.~~ superficial vein circumflex
- ~~me~~ superficial epigastric
- Superficial external pudendal vein

2) Deep vein :-

- Accompany  $\bar{c}$  artery & it's branches.
- possess numerous valve.
  - post. tibial vein
  - peroneal vein
  - Ant. tibial vein
  - femoral vein.

3) perforating vein  $\approx$  / communicating

- communicate bet<sup>n</sup> deep & sup. vein

A. Direct perforating  $\Rightarrow$  directly connect both veins.

B. Indirect perforating

- Numerous small vein connect indirectly.

• Etiological factors :-

I. primary varicose vein :-

- They occur due to congenital defect in vein.

$\downarrow$

A. smooth muscle & connective tissue become defective & weak.

B. congenital absence of valve.

C. valve at saphenofemoral junction is incompetent / absent.

D. congenital abnormality

E. congenital arteriovenous fistula.

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2. secondary varicose vein :-

- A. Defect in valve of any vein
- B. Hormonal cause  $\Rightarrow$  progesterone  
vasodilator can cause varicosity
- C. Deep vein thrombosis
- D. obstruction  $\Rightarrow$  due to tumour.

• pre-disposing factors :-

- These are those factors which aggravate the condition.

1. Prolong standing  $\Rightarrow$  occupationally
2. Obesity
3. Pregnancy

- In pregnancy varicosity occur due to

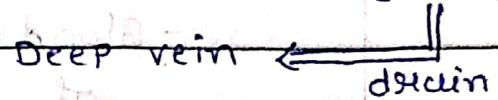
- A. high progesterone
- B. mother & foetal weight pressure on lower limb.

4. Old age  $\Rightarrow$  weakness of vein.
5. Athletes.

• patho-physiology :-

A. valvular defect induce varicosity

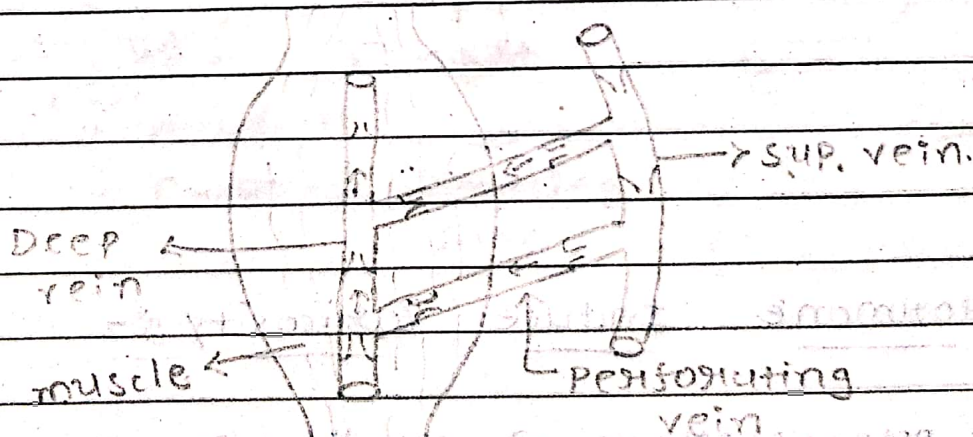
- Normally  $\Rightarrow$  superficial vein  $\xrightarrow{\text{drain}}$  perforating vein



- muscle contraction causes pumping of blood upward.

- At the same time valve of perforating vein closed to prevent back flow into superficial vein.

- valve of deep vein also closed after each contraction prevent back flow.



- Now, due to valvular defect/absence



- After contraction of muscle, vein also contracts



- Blood goes upward but back flow of blood occur due to valvular defect



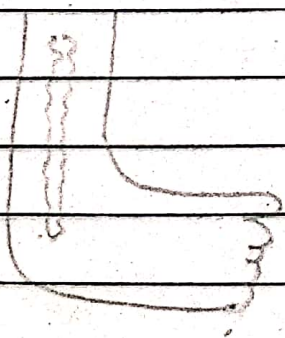
- Accumulation of blood into vein



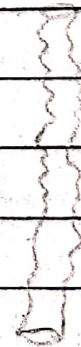
- ↑ hydrostatic pressure ⇒ oedema



- vein become tortuous, elongated & dilated



Normal vein



varicose vein

### B. Hormone Induce varicosity :-

- progesterone ⇒ vasodilator



- Thus, elevated level of progesterone  
Resulting vein become dilated.

c. obstruction Induce varicosity :-

- Any obstruction due to Thrombosis /  
Tumor => inability of blood to  
flow upward

↓

- Blood remaining in vein => varicosity.

C/F :-

I. Symptoms

- Pain :- Dragging pain in leg.
- sudden pain in calf region
- Bursching pain severe in nature
- cramp at night.
- pruritus
- Tiredness in leg

II. sign

- grossly dilated vein
- vein appear tortuous, dilated.
- Blow out.

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- Ankle flare
- Varicose ulcer
- Eczema
- Itchy pigmentation

• Dx

I. Inspection:-

A. Inspection of vein:-

- Inspect the whole course of varicose vein in standing position.
- Blow out  $\Rightarrow$  localize bulge in vein  
- indicate perforated incompetent
- sapheno femoral junction blow out is called cis saphenous
- Morrissey's Test :-

- elevate leg  $30^\circ \Rightarrow$  ASK pt. for cough  
Inspect bulging at SFT.

B. Inspection of ankle & foot:-

- Ankle flare
- oedema
- Eczema
- Varicose ulcers
- Talipes equinus deformities (walk into toes)

## 2. Palpation :-

A. Palpate the whole length of vein, warmth & tenderness mark the course with pencil.

### B. Fegan's method :- (pit observ.)

- After marking the course of vein
- raised the leg  $\Rightarrow$  empty vein
- palpate whole course with pencil mark point
- observe pit in course

### C. Cruveilhier's sign :- (thrill-coughing)

- Stand the pt.  $\Rightarrow$  put finger on SFJ
- Ask the pt. for coughing & fill Thrill (sensat<sup>n</sup> of water going down)

### D. Schwartz's Test :- (Tapping Test)



- stand the pt.  $\Rightarrow$  one finger of lt. hand over SFT. & another finger of rt. hand placed on most prominent part of vein.
- Tape the rt. hand & feel impulses on lt. finger.
- Indicate blood collection on whole vein.

E. Boodie - Trendelenburg Test :-

i) pt. lying down on supine position

$\Downarrow$   
- elevate the leg  $30^\circ$  & empty the vein  $\Rightarrow$  Then press the thumb at SFT.

$\Downarrow$   
- keep the SFT pressed & ask the pt. to stand

- maintain pressure  $\Rightarrow$  15-30 sec

$\swarrow$   
if vein remain empty

$\Downarrow$   
- SFI incompetence

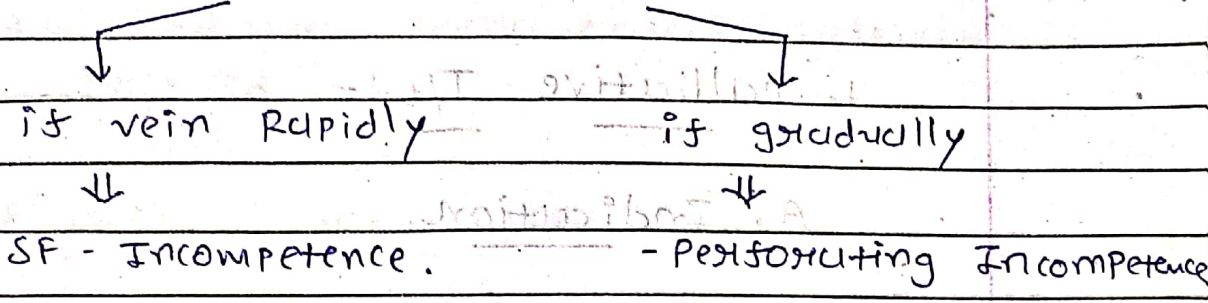
$\searrow$   
if vein fill

slowly  
 $\Downarrow$  Indicate perforating incompetent.

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ii) Now, Release the Thumb.



f. multiple Tourniquet method :-

- multiple Tourniquet tight at diff<sup>n</sup> part of leg
- 1<sup>st</sup> Tourniquet :- below the SFJ
- 2<sup>nd</sup> " :- middle of thigh
- 3<sup>rd</sup> " :- Just below knee

- Appearance of dilated & tortuous vein at diff<sup>n</sup> part indicate branch of vein

Special Investigation :-

1. Doppler ultrasound
2. Duplex ultrasound Imaging
3. venography
4. plethysmography

• T/t :- 3 mode of T/t are available.

1. Pallicative T/t :-

A. Indication

- who are pregnant
- do not want operation
- early case of varicosity

B. Avoid prolong standing

C. during sleep legs must elevate

D. Exercise - like bicycle.

2. Fegan's Injection :-

A. Indication

- Recurrent varicosity
- varicosity below the knee.

B. method

- In standing position ↓
- affected vein is punctured & needle attached to a syringe containing sclerosent agent.



- Then pt. asked to lie down

- 3. sodium tetracycline sulphate is injected.

### 3. Elastic compression:-

- Elastic bandage should be applied & elevate the leg.

- should be removed while lying down but leg should be elevated.

- It should be worn from ankle to below knee.

- during whole day.

### 4. operative

\* Boils \*

• Synonyms :- furuncle

• Def.<sup>n</sup> :- It is define as bacterial infection of hair follicle leads to suppurative inflammation & central necrosis.

• causative agent :-

- Staphylococcus aureus
- +ve family history
- poor immunity
- Diabetes

• Pathophysiology :-

- Bac. enter into body from cut, surface / injured tissue.



- Immune response causes infiltration of WBC, phagocytes, neutrophils.



- They try to destroy infectious Agent



- Bacteria, dead cell, macrophages accumulate & form lump.



- It is creamy in colour called as pus.



- This pus form central head necrosis.

• C/F :-

- Induration of skin
- Red, Tender, swollen & painful
- fever
- Lymphnode surrounding  $\Rightarrow$  inflammation
- oedema

• Site :-

- Back of neck & face
- eye  $\Rightarrow$  sty
- External auditory meatus (Hare)
- thigh, genital area.
- axilla

• Dx :-

- Base on clinical feature

• T/t :-

1. In very small pustules  $\Rightarrow$  touch of iodine causes automatically drainage of pus.

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- 2. Antibiotic
- 3. drainage of pus by incision when boil largest in size.

• complication :-

- 1. cellulitis
- 2. hidradenitis (infect<sup>n</sup> of group of hair follicles)
- 3. lymphadenopathy
- 4. Recurrent boil if
- 5. indicate diabetes.

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\* Erysipeloid \*

- Def<sup>n</sup> :- It is define as a infection of upper dermis & superficial lymphatics of skin caused by Bacteria.
- causative agent :-
  - streptococcus pyogenes,  $\beta$  haemolytic
  - lencified group A
- mode of entrance :-
  - enters into body by scratch, abrasion, injured tissue.
- pathogenesis :-
  - Bacteria enter into body.
  - At site of injury congestion occur.
  - ↓
  - inflammatory cell  $\Rightarrow$  lymphocyte & monocyte cells.
  - ↓
  - Bact. does not affect subcutaneous tissue  $\Rightarrow$  pus not form.



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- C/f :- Start  $\bar{c}$  rose-pink rashes.  
↓  
- This rashes extend to adjacent skin  
↓  
- vesicle appear over rashes.  
- serous discharge from vesicle  
- Raised edges of rashes.  
- fever, shaking.  
- headache, nausea, vomiting.  
- warm, red, painful rashes.  
- lymphoedema may occur.

- site :-  
- may occur anywhere, every part of body.  
- but usually  $\Rightarrow$  face, arm, fingers, legs & toes.

• Dx :-  
Based on clinical features

- T/t :-  
- oral antibiotic  $\Rightarrow$  penicillin, clindamycin, erythromycin.

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- IV also required when oral therapy not affected.

complication :-

- Congestive

- Lymphoedema

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\* cellulitis \*

• Def.<sup>n</sup> :- An acute, diffuse, spreading infection of the skin, involving the deeper layers of the skin & subcutaneous tissue.

- causes :-
  - Staphylococcus
  - Streptococcus group A & B
  - Injuries
  - Scratch
  - Snake bite, Scorpion bite

• predisposing risk factors :-

- skin infections such as impetigo, scabies, furuncle, tinea pedis
- Diabetes mellitus
- underlying skin ulcers
- low resistance of an individual
- Inflammation

• common sites

- upper limb
- lower limb
- face
- scrotum

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- C/f :- pain & tenderness
  - red, shiny, cool & stretched overlying skin
  - fever, toxicity
  - tachycardia, hypotension.
  - swelling is diffuse & spreading in nature
  - progress rapid in diabetic & immunosuppressed individuals
  - no edge, no pus, no fluctuation, no limit.

- DX :-
  - ↑ use total count
  - ↓ use platelet count
  - LFT, blood urea & serum creatinine in severe cases
  - some time blood culture

- D/D :-
  - DVT
  - stasis dermatitis
  - erysipelas, Lyme Dz
  - necrotizing fasciitis

- Tx :-
  - Bed rest & legs elevated. This reduces edema of legs.
  - glycerine dressing <sup>(mgsow)</sup> reduce edema of part by osmotic effect.
  - Antibiotics - penicillins, cephalosporins.

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- DM, if present, it selected - Injection  
Insulin given subcutaneously

- Anti snake venom in snake bite cases

complications:-

- abscess & needs to be drained
- necrotising fasciitis  
↳ extensive necrosis of skin & tissue
- Toxaemia & Septicaemia
- Ketoacidosis in DM

cellulitis

erysipelas

- |   |  |
|---|--|
| - Affect subcutaneous tissue.           | - only superficial layer of skin include |
| - caused by staphylococci, streptococci | - streptococci, group - A                |
| - Deepest layer of skin involve         | - only upper layer of skin               |
| - Rash are not raised.                  | - Raised Rash.                           |
| - It contain                            | - It contain ferrum                      |
| - Red, inflammed, Rash                  | - Rose, pink, Rash.                      |

\* carbuncle \*

- word meaning :- carbuncle.
- Def.<sup>n</sup> :- It is define as a infection of subcutaneous tissue occur due to staphylococcus aureus.
- predisposing factor :-
  - commonly seen in diabetic pt.
  - Low Immunity
  - undergo Radiotherapy
  - male above 40 year
- etiological factor :-
  - staphylococcus aureus
  - gm +ve Bac.
- pathogenesis :-
  - Bacteria Invide & penetrate deeper layer of skin reach up to sub-cutaneous tissue.
  - ↓
  - Initially, look like boil.
  - ↓
  - But it causes necrosis of sub-cutaneous fat.

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↓ Resulting.

- multiple abscess is form / series of abscess if form.

↓

- abscess are inter communicating.

- They open to exterior by multiple opening.

"sieve-like opening" seen

- This appearance describe As "cribriform appearance."

- site :- Nape of neck
  - Back
  - shoulder

• C/F :-

- Painful, swelling ⇒ spread rapidly
- Induration
- multiple abscess & multiple opening
- separately discharge pus.
- skin ⇒ red, inflamed, oedematous, Indurated
- Initially after swelling ⇒ vesicle appearance.
- vesicle transform into pustule.
- pustule burst discharge pus.
- ulcer also observe
- fever & chills & Rigors are severe.

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• T/t :-

1. oral antibiotic therapy

- erythromycin

- cephalosporin

- flucloxacillin

- cloxacillin

2. drainage of pus by incision

3. control diabetes & insulin.

• complication :-

- septicemia

- toxemia



\* Keloid \*

'Like a claw'

• Def.<sup>n</sup> :- It is define as a raised scar caused by proliferation of immature fibroblast & also immature blood vessels

- overgrowth of granulation tissue (collagen III) at site of healed skin injury & is then slowly replaced by collagen type-I.

• Etiopathogenesis :-

A. predisposing factor :-

- i) keloid formation is coloured licible & commonly seen in black people
- ii) Hereditary & familial
- iii) most commonly seen in woman
- iv) more common in TB Pt.
- v) Burns, vaccination & surgery promote keloid formation.

B. formation :-

- normally after injury, site of injury is heal by fibroblast & secrete collagen fibres.

- Normally, during healing certain amount of collagen are produces & then catabolise.

↓

- when, Imbalance occur bet<sup>n</sup> anabolism & catabolism of collagen fibre

↓

- more collagen produce than degrade & scar grow in all direction

↓

- Then, scar is elevate - above the skin & remain hypertemic.

characterist :-

- It is not a tumour but has tendency to spread
- smooth, tender & severe itching
- chocolate, brownish / pink in colour
- Like butterfly shape over sternum.
- All keloid have tendency to recure after excision / surgery

site :-

- common site ! sternum
- ear lobe
- upper back
- Deltoid => Dye to vaccination, Injection

- Least chances :
  - Eye lid
  - palm, sole
  - acromioclavicular

• T/t :-

A. conservative T/t :-

1. Intra keloid injection of
  - steroid (best T/t)
  - vit. A
  - hyaluronidase
2. Deep x-ray therapy - stop growth of keloid
3. Ultrasonic therapy

B. Surgery :-

- Excision of keloid scar may causes recurrence.

↓  
- Pre operative & post operative radiotherapy can prevent recurrence

↓  
- Note:- Incision should not extend upto normal tissue

\* Sebaceous cyst \* (wen)

• cyst :- It is define as sac like abnormal growth of tissue & is non-cancerous & filled w/ liquid / semi-solid sub.<sup>n</sup>

• sebaceous cyst :-

- It also referred as abnormal growth & is filled w/ sebum.

Mechanism :-

- sebaceous gland are present in skin
- & secrete sebum & keep skin oily & soft.



- By sebaceous duct & open into hair follicle.

- Blockage in duct => accumulation of sebum.



- distension of gland w/ it's own secretion



- Thus, form cyst.

• site :- scalp, face, back & scrotum.

- never seen at sole & palm.

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• Cyst :-

- spherical, hemispherical in shape
- size  $\Rightarrow$  few mm to 5 cm
- smooth surface, round.
- central portion  $\Rightarrow$  filled  $\bar{=}$  keratin



look like punctum  $\bar{=}$  Black, dark spot.

- Always fixed in nature
- oily, waxy skin
- Painless swelling
- unpleasant odour of sebum content

In scalp  $\Rightarrow$  hair loss

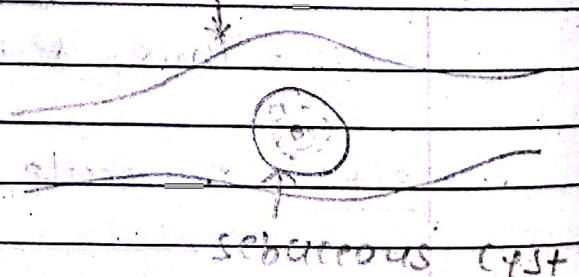
• T/t :- excision of cyst

- Infected  $\Rightarrow$  antibiotic T/t
- Dissection method
- Incision - Avulsion Technique

• complication :-

- Infection
- ulceration
- sebaceous horn
- calcification

epidermis of skin



• Dx :- Examinat<sup>n</sup> by physician

\* Haemangioma \*

• Word meaning :-

Haeme = blood

Angio = Blood vessel

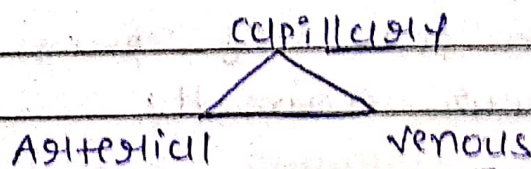
oma = Tumour

• Def.<sup>n</sup> :- It is define as a vascular tumour due to congenital malformation of blood vessels.

- This vascular tumour appear since birth / some time after birth.

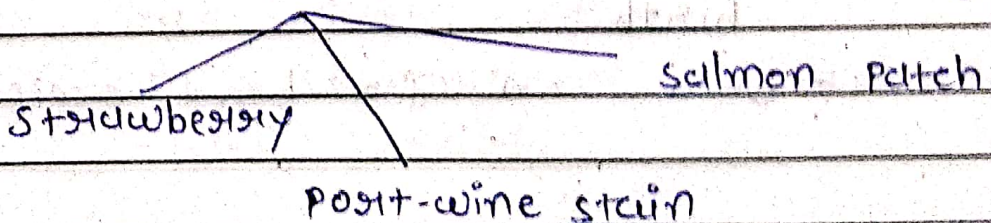
- some tumour automatically regress & age while some are progress & age.

• Types :-



To capillary Haemangioma :-

- It further divided into following varieties



i) Strawberry Hemangioma :-

- Develop after 1 to 3 week of birth
- colour => strawberry, Rasp berry
- Initially Red macule appear & later develop as strawberry.
- After 1st birthday regress gradually
- around 7-10 yr of age completely regress.

ii) port-wine stain :-

- colour => purple-red. (port-wine colour)
- int since birth
- does not regress rest of the life
- varies in size
- $\bar{c}$  pressure colour diminishes turn into pale if pressure released disappear normally.

iii) salmon patch :-

- int since birth
- regress / disappear some time after birth.
- seen on forehead, occiput.

• Txt :-

- detect & watch for disappearance automatically.

- If lesion exist even after 8 years

↳ excision of lesion

↳ CO<sub>2</sub> snow apply

↳ Inj. hot water

↳ Inj. steroid.

2. venous x hemangioma :-

• character :-

- present since birth

- Bluish in colour due to it's content.

- localise swelling.

- gradually progress & size instead of regress.

- soft.

- squeeze ⇒ Blood out.

• site :- face, cheek, ear.

- mucous membrane ⇒ mouth, lip.

- liver, brain.



• T/t :- 1. conservative :-

- i) Inj of sclerosing agent into lesion.
- ii) Inj. of boil water.
- iii) cautery T/t.

2. lesion is excised by surgery.

3. Arterial Haemangioma :-

• character :-

- such type of haemangioma are circoid aneurysm.
- circoid shaped TORtucity seen in scalp, forehead, Temporal.

• T/t :-

- 1. ligation of affected vessel.
- 2. excision of lesion.

\* Marjolin's ulcer \*

• Def.<sup>n</sup> :- It is a malignant ulcer that develop from squamous cell carcinoma of scar tissue.

- if squamous cell ca. develop in scar tissue => Marjolin's ulcer.

- This is very commonly seen in scar tissue & develop due to burns,

- chronic scar can also develop.

• Character :-

1. very slow in growing.
2. Painless (does not contain nerves)
3. Lymphatic metastasis not occur
4. less malignant than squamous cell ca.
5. edges is not everted & raised.

- It is followed by :-

- varicose ulcer
- snake bite scar.
- chronic osteomyelitis scar
- lupus vulgaris scar.  
(TB of face)

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• Dx :- wedge biopsy from the edge  
- MRI of part of regional node  
cored.

• T/t :-  
1. surgery  $\Rightarrow$  wide excision of lesion  
along  $\pm$  some core of  
healthy tissue.

2. Radiotherapy not very useful.

\* Embolic occlusion \*

• Embolism :- It is define as solid, liquid or gaseous mass in circulating blood flow it's site distinct from it's origin.

• embolic occlusion :-

- when this emboli dislodge to vessel & produces obstruct<sup>n</sup> called as embolic occlusion.

• Etiology :-

- Atherosclerosis
- Thrombotic occlusion
- Arteriosclerosis
- Plaque of blood vessels
- Blood vessels stasis

• sites :- common in lowest limb, upper limb.  
70% cases

• pathophysiology :-

⇒ emboli is foreign body to blood stream



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- which is freely circulate in blood & lodge in vessel.

↓  
- periodic obstruction / Blockage

↓  
- sudden occlusion of artery occur

↓ leads to

- Ischemia / hypoxia of affected part.

↓  
- Congenous changes in affected part.

↓

- Prolong occlusion causes

"critical limb ischemia"

in limbs

• C/F :- 5 Ps

1) Pain = unbearable pain & burning

2) Pallor = paleness, coldness are observe

3) Paralysis = depend upon blockage

4) Pulselessness = peripheral pulse lost.

5) Paresthesia

↓

- affected limb => cold, pulseless, pallor & severe pain

• Dx :- histology taking  
- physical examination.

• Investigation :-

- Angiography
- Doppler ultrasound sonography
- Duplex imaging
- Coagulogram
- Angioscopy

• T/t :-

### 1. embolectomy

- perforator under CA
- Transverse incision is given over artery



- catheter introduce & balloon inflate



- Then catheter withdrawn & Remove embolism

### 2. Thrombolysis

- if embolism come from detach part of Thrombus

### 3. Angioplasty

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Basal cell carcinoma

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\* Rodent ulcer \*

• Def.<sup>n</sup> :- It is defined as locally invasive tumour / carcinoma of basal cell of skin.

- It is the most commonest type of cancer of skin.

- occurs in basal layer of skin.

• pre disposing factors :-

1. male are more to develop than female
2. common in elderly age.
3. more common in white skin people than blacks.
4. common in places where exposure to UV light is more (Australia)
5. exposure to sun light
6. dry skin

• Pathophysiology :- (Etiopathogenesis)

- exact cause of pathogenesis still unknown.

- Basal cell are the cells of epidermis of skin.

- which is responsible for production of cell.

- whenever skin cell become old automatically renewed by newly growth cell from basal cells.



- Due to any causes esp. from sun light / radiation mutation occur in DNA of basal cell.



- which resulting formation of abnormal cell from abnormal DNA.

• characteristics :-

A. common sites :-

- face (90%)
- Inner canthi of eye
- outer canthi of eye
- naso labile fold

B. spread :-

- only locally spread seen.
- not spread by lymphatics.
- Hematogenous spread also not occur.





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Definition - Any part of skin come in contact  
E. it causes destruction

↓

Classification - also called as "Rodent ulcer"

• Cross :-

A. Appearance :-

- always start as nodule
- center of nodule is die.

B. Edge :-

- Raised
- Rounded / Rolled

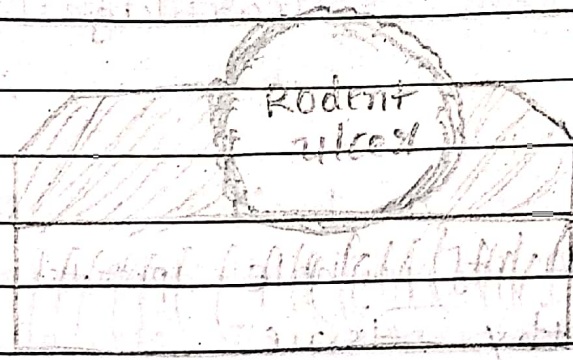
C. floor :-

- serum & epithelial cell
- eroded skin
- muscle, bone sometime appear

• Dx :-

- Based on physical examination
- other feature.

- C/A :- painless in beginning
  - itch
  - Bleeding not usually seen
  - After some time causes bleeding & pain
  - ulcer & nodule grossly appear
  - grow slowly



- D/p :- squamous cell carcinoma
  - melanoma
  - keratoacanthoma
  - seborrheic keratosis

• Investigation :-

- wedge biopsy
- X-ray of pit
- CT scan
- dermoscopy is very useful



• T/t :- 1. Radiotherapy

- 90% of all basal cell treat by radiotherapy

=) contraindication :-

- affect eye
- Buck of eye
- cartilage affected

2. Surgery :-

- excision of whole parts along a healthy tissue
- indicate when Radiotherapy is contraindicate

3. Local chemotherapy

\* Buerger's Dz \*

• Synonyms :- TAO = Thrombo - Angitis obliterans

• word meaning :-



Thrombo = Related to thrombus / clotting

Angitis = Inflammation of vessel

obliterations = Blockage / obstruction in vessel wall.

• Def<sup>n</sup> :- It is defined as dz of vessel characterize by inflammation of vessels & formation of clots & causes obstruction in circulating blood flow.

- Def<sup>n</sup> clearly says that in Buerger's dz blood vessel become inflamed, thick & causes blockage & clots formation.



- leads to necrosis & gangrene of affected tissue.

• pre disposing factors :-

1. smoking of tobacco core major risk factor.
2. Hormonal imbalance
3. men > female.
4. genetic predisposition.
5. Auto Immune
6. low socio economic status.

• Etiopathogenesis :-

1. Tobacco chewer

- Exact cause is unknown but experiment shows that TAO majority observe in Tobacco chewer.

- Exact Phenomena also unknown

↓  
- Hypothesis says that Tobacco poison irritate vessel wall & swell up.

- This injured vessel is more prone to develop Thrombosis

↓  
- This causes pt. is features of ischemic in limb

↓

- This time collaterals, blood supply is maintained to the ischemic area.



- It is called compensatory peripheral vasculature dz.



- If Pt. continues to smoke, dz progresses into collaterals, blocking them eventually.

⇓ leads to

- Severe ischemia.



- It is called decompensatory peripheral vasculature dz.



- It is known as "critical limb ischemia".

- It causes rest pain, ulceration & gangrene.

2. Some people develop genetically abnormal.

3. Autoimmunity also responsible for develop of TAO.

- C/F :-
  - Tingling in limbs
  - pulselessness
  - color changes occur
  - gangrenous changes also seen
  - pale, yellow, greenish, bluish & blackish.
  - affected part become cold.
  - soreness of fingers
  - hair loss.

Dx :-

1. Angiography

2. palpitation => Hard, dry & blackish  
- gangrene. fetid odor appear

3. Auscultation => pulse absent.

T/t :-

1. Avoid Tobacco chewing
2. Vasodilators
3. microvascular Transplantation
4. Amputation

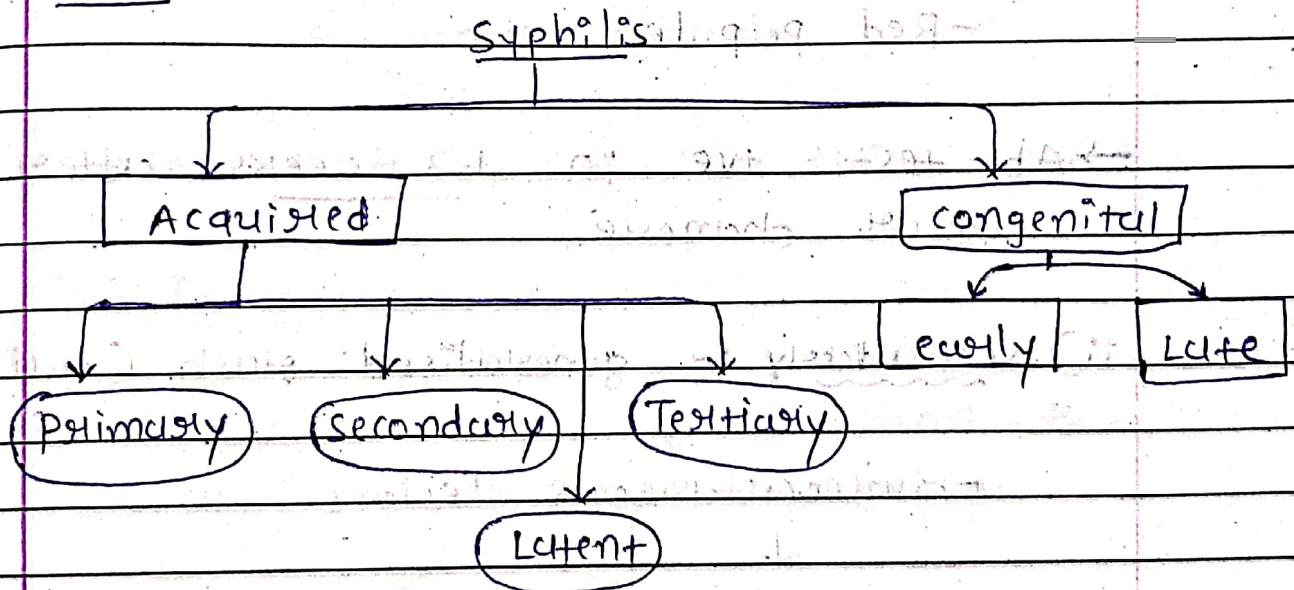
\* Syphilis \*

• Synonyms :- French dz  
Crescent Pox

- Syphilis derived from 'syphilus' → caused by greek god apollo

• Def.<sup>n</sup> :- It is venereal (STD) dz caused by spirochete "Treponema pallidum"

• Types :-



• mode of transmission :-

1. Sexual intercourse ← unprotected sex
2. person to person contact ← multiple sexual partner.
3. Transfusion of infected blood
4. Materno-fetal transmission.



• pathophysiology :- (stage) :-

A. Acquired :-

i) Primary :- chancre (little ulcer) formation on genitals / extra-genital sites

- genital :- always painless

- extra genital :- may be painful (mouth, lip, tongue)

- Red papule

→ Ab test +ve in 1-3 weeks after  
1st appearance of chancre

ii) secondary :- generalised rash (dull red colour)

→ mucocutaneous lesions

↓

mucous patches on mouth, pharynx, vagina

→ skin eruption spec. face

→ condyloma lata in anogenital region (wart like)

- wt. loss
- fever
- hair loss
- sore throat.

→ Ab test is +ve of highly infective stage (2-3 months)

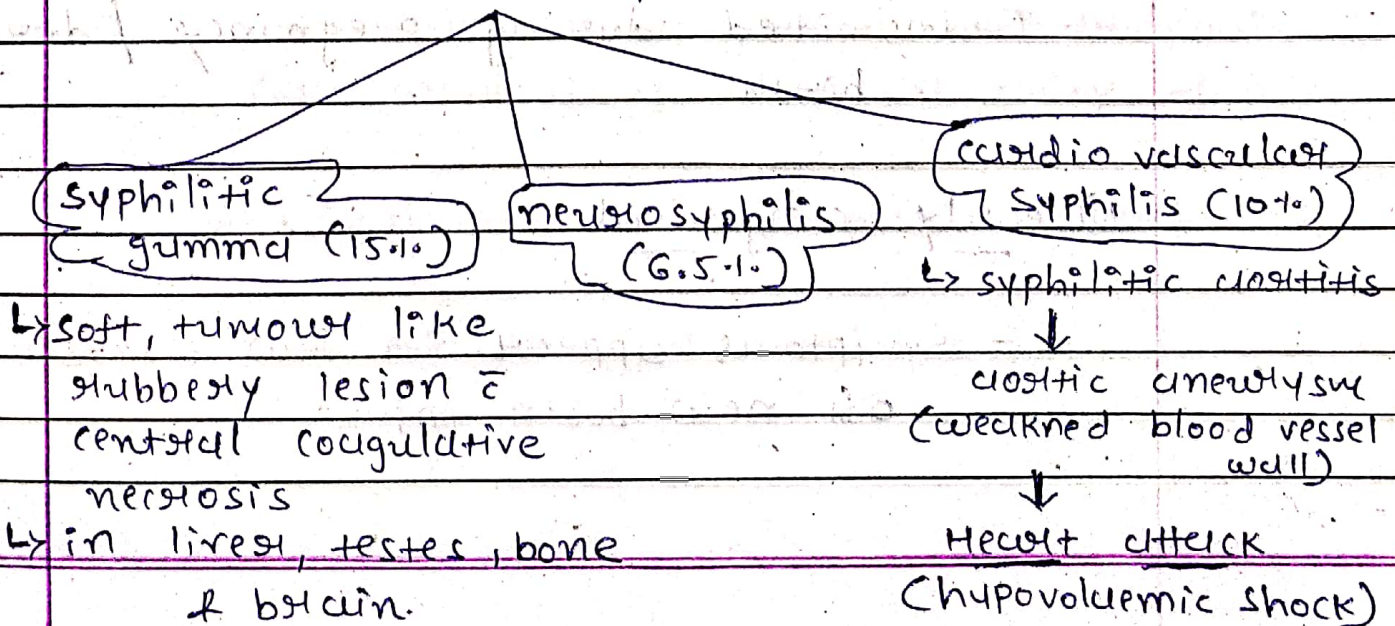
iii) Latent :-

- Serologic proof of infection is out symptoms of dz.

- serum test +ve in this case.

iv) Tertiary :-

- After 2-3 yrs of infection then appear tertiary symptoms.



• neurosyphilis :-

1. Tabes dorsalis

- slow degeneration of neural tract in dorsal column of spinal cord.

- Poor balance & lightning pain in lower extremities.

2. meningitis

3. general paresis

- general paralysis of insane (GPI) dementia (dishiya)

B. congenital :-

- Transmitted during pregnancy / during birth.

1) early congenital :-

- symptoms appear in few weeks of new born infant.

- hepatosplenomegaly
- loss of wt.
- basilar meningitis
- osteochondritis (inflam<sup>n</sup> of bone + cartilage)
- periostitis (inflam<sup>n</sup> of periosteum)
- syphilitic rhinitis = nasal discharge  
↳ (mucous membrane of nose)
- severe affection

↳ lead to death due to the syphilitic pneumonia

## 2) Late :-

- saddle nose (destruction / concavity of bridge of nose)
- Hutchinson's teeth (- peg / band shape)  
[upper central incisors]
- subperiosteal (skin) emaciation
- Clutton's Jt. (knee Jt.)  
↳ painless symmetrical hydroarthrosis  
(accumulation of fluid in cavity of jt.)
- interstitial keratitis (cosmesal inflammation)
- nerve deafness (8<sup>th</sup> cranial n.)

• Dx :- 1) Blood test

Treponemal (TT)      non-Treponemal (NTT)

- TPPA      - VDRL

- FTA-Abs      - RPR (Rapid plasma reagin)

2) Direct visual :- Dark field microscopy (sample of chancre)

Direct fluorescent antibody (DFA)

Polymerase chain reaction (PCR)

• prevention :- protectable sex

- screening      early detect.<sup>n</sup> of dz)

• T/E :- early - penicillin 2m

Late - penicillin IV = 10 days

→ Those allergic to penicillin

- Doxycycline

- tetracycline

- 3<sup>rd</sup> generation cephalosporin antibiotic

• Hom :- primary chancre formation

- merc. sol. - sup chancre

- merc. cor. - soft chancre

- secondary :- syphilium

- Nitric acid

- Thujol :- warts eruption

growth relation to needs of body

\* Tumours \*

• Def<sup>n</sup> :- A mass of tissue formed as a result of abnormal, excessive, uncoordinated, autonomous & purposeless proliferation of cells even after cessation of stimulus for growth is called it.

- There are mainly 2 processes :-
1. abnormal reproduction of cells
  2. abnormal differentiation of cells.

• Types :-

1. Benign Tumour
2. Malignant Tumour
  - i) carcinoma
  - ii) sarcoma

i) carcinoma :-

- It has 3 type of origin
1. Ectodermal - skin cancer
  2. Endodermal - gut cancer
  3. mesodermal - Renal cancer

- It has 3 types

1. squamous cell ca.
2. Basal cell ca.
3. glandular ca.

q4 - It does not invade near by tissue.

ii) sarcoma :-

- It arises from soft tissue / bone & are derived from mesoblast / mesenchymal tissue.

\* Benign Tumours :-

- Benign Tumour include papilloma, fibroma, adenoma, myoma, lipoma, haemangioma, glomus tumour, lymphangioma, haemangioma, Neuroilemmoma, Neurofibroma.

=> • papilloma :-

• Def.<sup>n</sup> :- Benign tumour arising from skin / mm characterised by finger like projection & central core of connective tissue, blood vessels, lymphatics & lining epithelium.

- It can be called "Haemangioma / skin tag"

- It is overgrowth of fibrous tissue.  
e.g :- If arised from epidermis called papilloma of skin.

BT

- genetic
- Diet
- Stress
- local trauma / injury
- infection

- from mm squamous cells seen in tongue, cheeks, lips & oesophagus.

- Transitional cells - seen in colon & rectum, stomach & small intestine.

- from wall of duct :- involve breast

- from wall of cyst :- include ovary / breast

- papilloma of skin - 1. squamous cell papilloma

2. Basal cell papilloma

1. squamous cell papilloma

- congenital papilloma

- Infective papilloma

- soft papilloma

- keratin horn papilloma

2. Basal cell papilloma

- seen in middle / old aged person

- mainly occur in trunk, face, arms & <sup>leg</sup> pits.

• Tx :- surgical excision for cosmetic purpose.



⇒ • Adenoma :-

• Def.<sup>n</sup> :- Benign tumour of glandular tissue, arising from secretory gland & consisting of dense mass of acini lined by exuberant epithelium.

- columnar / cuboidal in type & arranged in solid groups
- Resolving & capsulated.
- found in any glandular organ  
e.g. breast, prostate & other endocrine gland.

• Types :-

1. Fibroadenoma :-

- seen in breast overgrowth due to an excess in stromal reaction
- 2 Types :-

- A. hard, pericanalicular fibroadenoma
- B. soft, pericanalicular - "

2. Cystadenoma :-

- In ovary, pancreas, parotid gland, kidney
- 2 types :-
- A. serous cystadenoma
- B. pseudomucinous cystadenoma

## 2. Fibroma :-

• Def<sup>n</sup> :- Benign tumour consisting of connective tissue fibres present as firm subcutaneous swelling.

### • TYPES :-

#### 1. soft fibroma

- involve less fibrous tissue.

#### 2. Hard fibroma

- involve more fibrous tissue.

- fibroma are combined with neural elements muscle tissue & fatty muscles.

#### 3. neural fibroma

- fibroma mixed with nerve fibres.

#### 4. fibro lipoma

- fibroma mixed with fatty sub.<sup>n</sup>

#### 5. myofibroma

- fibroma mixed with muscles.

#### 6. Angio fibroma

- fibroma mixed with blood vessels.

• Tx :- surgical excision.

⇒ • Lipoma :-

• Def<sup>n</sup> - most common benign tumour arising from fat cells of adult type, occurs anywhere in body, so known as "univisceral tumour".

• site :- subcutaneous tissue of trunk, nape of neck, limbs.

• 3 varieties :-

1. encapsulated lipoma

2. diffuse lipoma

3. multiple lipoma

1. encapsulated lipoma

- most common.

- swelling is soft, may feel cystic & fluctuation.

2. diffuse lipoma

- rarely seen.

- Also known as pseudolipoma

- seen in subcutaneous & intermuscular tissue of neck.

- overgrowth of fat.

3. multiple lipoma.

- also called "Lipomatosis"
- Tumours remain small/moderate in size
- sometimes painful if it contains nerve tissue.
- "Neurolipomatosis" - seen in trunk & limbs

- other types :-  
 fibro lipoma - fibrous  
 neuro lipoma - Painful & nerve tissue  
 Nerve lipoma

- complicat<sup>n</sup> myxomatous degeneration
  - saponification
  - calcification
  - = malignant / carcinomatous changes

• Tit :- surgical excision

\* [malignant Tumour]  
 X

• Route of spread :-

1. local / direct spread
2. By lymphatic invasion
3. Through blood vessels
4. Through serous cavities
5. Through natural passage
6. Inoculation

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• etiology :-

1. Tobacco
2. Alcohol
3. Ionising radiation
4. UV rays
5. genetic causes
6. hereditary :- MEN syndrome  
 ↓↓  
 (medullary ca. thyroid)  
 multiple endocrine neoplasia.
7. Dietary factors :-  
 Thiamine deficiency
8. hydrocarbons :-  
 polycyclic hydrocarbons
9. sex hormones
10. viruses :- HPV, EBV, lymphoma.  
 - human T cell leukaemia virus  
 Type-I  
 - RNA virus  
 - chronic irritation  
 - Trauma  
 - chemicals.

⇒ Basal cell ca. (rodent ulcer)

- locally invasive ca. of basal layer of epidermis

- Has low grade malignancy
- occur in fair & white skin people.
- constantly exposed to sun light.

### • etiology

- more in elders
- M > F
- slow growing
- seldom in dark skin people.
- following prolonged administration of arsenic
- 90% of basal cell ca. seen in face above the line from corner of mouth to lobule of ear
- common site :- Inner canthi of eye

### • pathology

- non-ulcerated.

### • Types

- Deeply eroding ulcer
- Nodule
- cystic
- pigmented nodule
- field fire / geographical variety.

• microscopic features :-

- consist of densely packed island of darkly stained cells & extend downward from epidermis.
- spread through local invasion.

• C/F :-

- present as ulcer on nodule
- not painful in kidney
- itching present
- lesion grow slowly & little bleeding

occur if left untreated pain & bleeding occur.

• T/t :- Radiotherapy & surgery

⇒) • malignant melanoma :-

• Def<sup>n</sup> :- cancer of melanin producing cells & can arise in skin, mucosa, retina & leptomeninges

• epidemiology :-

- mainly caused by exposure to UV rays  
In sun exposure among the white skin people.

- It accounts for 2-5% of skin malignancy.

- It's responsible for over 75% of skin malignancy related to death.

- FxM

- most common in young adult.

- It reflects the occupational & recreational exposure to sunlight.

- Breslow thickness is imp prognostic indication.

- sentinel node biopsy useful for lymphatic mapping.

• site :- mainly on palm, soles, external genitalia.

- beneath the nail called subungual melanoma.

- also in choroid of eye

- meninges.



- repeated trauma to naevus may turn into melanoma.
- pregnancy also provoke malignant changes into naevus.
- steroid hormones have influences to produce melanoma.

microscopic features

- ↑ in junctional activity
- ↑ in cell size
- nucleus & cytoplasm ↑
- nucleolus enlarged
- hyperchromatic
- mitosis
- cytoplasm vacuolated

pathology

- 4 type of malignant melanoma

1. lentigo malignant melanoma
2. superficial spreading melanoma
3. Acral lentiginous melanoma
4. nodular melanoma

- spread :- local extension
  - lymphatic spread
  - Blood spread
- C/f :- ↑ in size of mole
  - widest & thickest
  - change into colour mole turns darkest
  - overlying epithelium is ulcerated & bleeding occurs.
  - enlarged regional LN.

- symptoms :-
  - when benign, not painful
  - Itching present.
  - LN enlargement - swelling in groin, axilla / neck.

- Risk factor :-
  - xeroderma pigmentosum x 1000 higher
  - previous melanoma.
  - high total no. of naevi in body.
  - Dysplastic naevi
  - Red hair
  - Tendency to freckle

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• clinical staging :-

stage I :- 1<sup>o</sup> tumour

stage II :- 1<sup>o</sup> tumour + present of satellite / enlarged regional LN

stage III :- Refer to lesion + distant metastasis

• special Ix :-

- excisional biopsy

- CT

- USG

- endoscopy for esophageal metastasis

- MRI for CNS metastasis

- Lymphangiography

• prognosis :-

- pt. + localised dz of skin have

better px than pt. + dz involved

in 1<sup>st</sup> order LN + intracranial lesion

• D/p :-

- pigmented basal cell ca.

- Keratoacanthoma

- Pyogenic granuloma

- cafe - all - lait patch

- glomus tumour
- Angioma
- Histocytoma
- pigmented senile warts

- T/t:- surgery
  - biopsy of suspected lesion
  - adequate excision of <sup>o</sup> tumour
  - Block & dissection of node

⇒ • Squamous cell ca. (epithelioma, epidermoid ca)

- some tumour grow de novo on healthy skin, others grow on skin that has been exposed for a long period to some form of irritation [mechanical, chemical, thermal, bacterial, x-ray]

- chronic skin lesion involved like eczema, sores, lupus vulgaris.

- chronic ulcers - marjolin's ulcer following burns.

• site :-

- Anywhere on skin most common mucocutaneous junction:- lip, penis,

• pathology :-

- Tumour start as small nodule & break to form a typical malignant ulcer. raised from surface

- Rolled out margins & induration at base of ulcer

• characteristic features :-

- Prickle cell appearance epithelial pearl

• spread of infect<sup>n</sup> :-

- Direct spread

- Lymphatic

- Venous

• Ix :-

- Biopsy

- local x-ray of underlying bone

- chest x-ray.

• T/t :-

surgery  
Radiotherapy

chemotherapy / Block dissection of LN

imp. :- classification of cyst  
clinical Examinat. of cyst

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\* CYST \*

• Def. :- cyst is a collection of fluid in a sac lined by epithelium / endothelium

• word meaning :- "Bladder"

• Types :- 1) True cyst  
2) false cyst

1) True cyst :-  
- lined by epithelium / endothelium contain serous fluid, mucoid material, pus, blood, lymph / tooth paste like material.

2) false cyst :-  
- Do not have lining epithelium.  
- Degenerative / exudative cyst

• classification :-

⇒ A. congenital cyst :-

- Sequestration dermoid cyst
- Branchial cyst
- Thyroglossal cyst

- Lymphangioma.

- cyst of embryonic remnants.

↳ cyst of urechus

↳ vitellointestinal duct cyst

⇒ B. Acquired cyst :-

• Retention cyst

- sebaceous cyst, cyst of parotid

- Bartholin's cyst, cyst of epididymis

- galactocoele (breast)

• Distention cyst

- Thyroid cyst

- ovarian cyst.

- lymph cyst

- colloid goitre

• Exudation cyst

- Hydrocoele

↳ Bursae

⇒ C. cystic tumours :-

- Dermoid cyst of ovary

- Cystadenomas of pancreas.

⇒ D. Traumatic cyst :-

- Haematoma
- Implantation dermoid cyst

⇒ E. Degenerative cyst :-

- Tumour necrosis

⇒ F. Parasitic cyst :-

- Cysticercosis
- Hydatid cyst
- Trichinosis

• C/f of cyst :-

- Hemispherical swelling
- smooth, fluctuant, non tender, well-localised
- some are transilluminant

• Clinical examination of cyst :-

History

- A. chief complaints :-
- swelling in any part of body
  - Associated  $\bar{c}$  /  $\bar{c}$  out pain



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B. history of present illness :-

i) Duration :- It is important to note the duration

ii) mode of onset & progress :-

- it is very important so as to know whether it started after trauma / spontaneously

- The rate of progress - whether rapid / slow

- certain swellings may be stationary - status quo.

- site & exact site should be asked.

- size & shape - at the time of onset should be asked.

iii) pain :-

- detailed history related to pain should be noted.

iv) fever :-

- nature of fever & the swelling should be asked.

v) other lumps / swelling :-

- any other swelling should be clarified.

vi) Other features :-

- secondary changes
- Movements
- Loss of wt. & appetite

C. Past history :-

- history of surgery in the past at the same site / at diff<sup>n</sup> site has to be asked for

D. Personal history :-

- Habit of smoking / alcohol consumption / tobacco chewing
- Dietary habits & suffering from any chronic dz & their t/e to be asked

E. Family history :-

- family history suggestive of similar swellings should be enquired

F. T/t history :-

- As the pt. has received any T/t for the present swelling & nature of T/t & its duration should be clarified.

\* Inspection :-

- Examination of swelling starts with inspection.

"Remember not to touch the pt. during inspection"

- Typically remember st the "6-S" in method of inspection.

1. Site :-

- Exact anatomical location is noted
- Relation - bony pt. / surface landmark

E.g. - post auricular dermoid - behind ear  
Ext. angular " " - Lat. end of eye brow.

2. Size :-

- vertical / horizontal dimension - assessed.
- note in cms.

E.g. Ext. angular dermoid - Lat. end of eye brow.

3. Shape :-

- oval / globular / spherical
- pear / irregular - diffuse / localised

E.g. abscess - over the back

4. Surface :-

- smooth / nodular / lobular / irregular

E.g. smooth - seb. cyst.  
nodular - mucus - Thyroid

5. Skin :-

- Tense, glossy & prominent veins
- Red edematous
- Pigmentation / ulceration / fungation / discharge
- scar & nature of healing

E.g. abscess - back  
ulcerated abscess

6. Surrounding area :-

- Changes :- pigmentation / edema  
crusting / discoloration

E.g. abscess - pt. foot.  
ca. breast

7. Other :-

- No. :- multiple/single
- colour
- Edges / margins
- extent
- visible pulsations
- visible cough impulse
- movements
- It's :- above/below

\* palpation :-

- Be gentle & do not hurt the pt.
- methodical, follow a definite order
- TO define anatomically
- TO find out - nature of content

2. Temp. :-

- check in beginning itself
- Best - back of hand

- Rise in inflammation / infection
- Tumours & ↑ vascularity

Tenderness

- Pain due to pressure exerted over swelling
- palpate gently - observe the fact of it.

- Feature of inflammatory conditions
- swelling related to nerves

Inspection findings

- note shape, surface, edge & extent
- consistency & palpation & correlate both.

- note the 3<sup>rd</sup> dimension depth could not be exactly determined by inspection.

Consistency

- Nature / feel of swelling
- uniform :- soft & lip / ear lobule
- firm :- tip of nose
- hard :- forehead.

5. Fluctuation :-

Transmission of impulse in 2 directions

- Transmission of impulse in 2 directions at rt. angle to each other

- Implies i- fluid/gas

- pseudo-fluctuation

- cross-fluctuation

6. Translucency

- Transmission of light through a swelling

- +ve in swelling :- clear fluid & thin transparent walls

- No transillumination :- wall is thick / turbid fluid.

- Dark room :- transillumination scope

7. Reducibility

- pt. is asked to relax 1st.

- swelling is pressed from all sides uniformly.

- Reducible swelling ↓ size / completely disappears.

- it reappears only by straining, coughing.

E.g. hernia

- meningocele

- varicocele

- scaphocele

8. Compressibility

- swelling on pressure reduces in size only partially but will not disappear completely.

- swelling regains its original form on releasing the pressure

E.g. Haemangioma

Lymphangioma

9. Pulsatility

- swelling may be pulsatile - it rises & falls with each beat.

- 2 types of pulsations are seen.

1) Transmitted pulsation

2) Expansile

10. fixity to skin :-

- skin is made to move over the swelling - the skin will not move if it is fixed to skin.



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11. mobility / plane - swelling

- mobility :- swelling can be moved in relation to underlying structures
- plane :- co-relates to the probable site of origin / it's relationship to deep fascia.

12. Relationship to structures

- muscle :- sub. cut. tissue :- more prominent & more mobile
  - from muscle :- fixed & diminished
  - deep to muscle :- disappears & difficult to palpate.
- Tendon :- makes tendon fixed
- vessels & nerves :- moves little extent at Rt. angles to axis.
- Bone :- fixed.

\* percussion :-

- limited value in swellings
- not needed

- To find out content / elicit tenderness

\* Auscultation :-

- look for any bruit over pulsatile swellings.

- machinery murmur :- aneurysmal varix

\* Other examinations :-

- It's above & below the swelling - movements.

- Look for pressure effects.

- Regional lymph nodes - enlargement

- Systemic examination :- related to respiratory / skeletal & abdomen - suspecting malignancy.

• Effects of cyst :-

- compression of surrounding structures, blood vessels leading to venous congestion, varicosity.

- pressure on neighbouring duct.

- Torsion.

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- complication:~
  - Infection
  - Haemorrhage
  - Torsion
  - calcification
  - Trans form to malignancy
  - ovarian cachexia

## \* Desmoid cyst \*

\* Def<sup>n</sup> :- cyst which lies deep to the skin & is lined by squamous epithelium containing desquamated cells.

- It is also called epidermal cyst.

- contains toothpaste like materials.

### \* Types :-

1. congenital desmoid / sequestration desmoid
2. Implantation desmoid
3. Tubulo desmoid
4. Testicular desmoid

### 1. sequestration / congenital desmoid :-

\* etiology :- develops at line of embryonic fusion.

- some part of ectoderm

sequestration surrounding mesoderm.

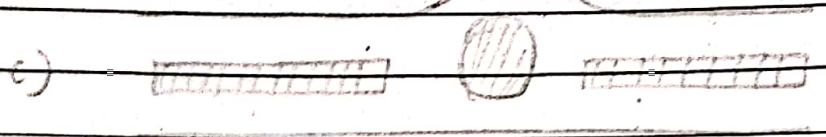
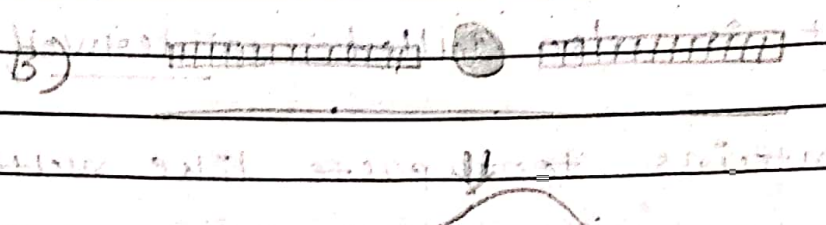
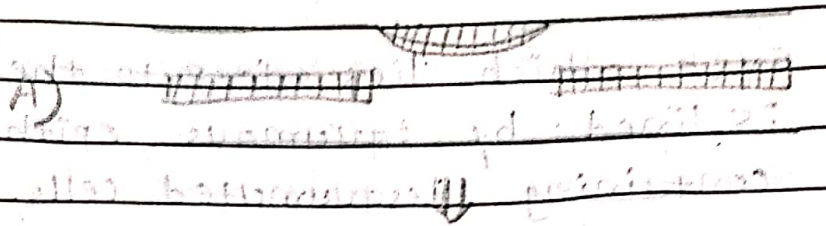
\* common site :- neck

- outer canthi of eye

- behind ear

- in root of nose.

- midline of face.



• pathology

- lining :- squamous epithelium

- content :- Toothpaste like material, desquamated epithelium, hair, bone, cartilage, fluid, sebum, sweat

• C/F :-

- painless swelling
- slow growing
- cosmetic disfigurement
- Rarely infected
- Transillumination test -ve

• Ix :- X-ray

• complication :- Infection

• complication :- Abscess

• complication :- Ulceration

- pressure to neighbouring structure

• Rx :- Surgical excision under LA.

2. Implantation dermoid / acquired dermoid :-

• Def.<sup>n</sup> :- It is a cystic lesion in dermis  
epithelium beneath the skin due  
to puncture injury, needle prick.

• common sites :- palm -> volar surface  
- any part of finger - pulp, tip  
- sole of foot

• pathology :-

- lining :- squamous epithelium

- content :- sebum, fluid, debris, white cheesy  
material formed by desquamated  
epithelial cells & sebum, hair  
absent.

• C/F :- swelling in finger / palm.

• C/F :- painful

• C/F :- present of tense cyst & previous

history of punctured wound.



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• Content :- mesodermal elements i.e. bone, cartilage, hairs almost always present.  
- toothpaste & cheesy material

• Sites :-  
- Ovarian cyst - ovary  
- Testicular - Testes  
- Medial cyst - mediastinum  
- Retroperitoneum  
- post renal dermoid cyst.