

+ Ulcer

1. An ulcer is a discontinuity or break in a bodily membrane that impedes normal function of the affected organ.

Aetiology

- ▶ Venous Disease (Varicose Veins)
- ▶ Arterial Disease ; Large vessel (Atherosclerosis) or Small vessel (Diabetes)
- ▶ Arteritis : Autoimmune (Rheumatoid Arthritis, Lupus)
- ▶ Trauma
- ▶ Chronic Infection : TB/Syphilis
- ▶ Neoplastic : Squamous or BCC, Sarcoma

2.

Wagner's Grading of ulcers

- ❖ Grade 0 - Preulcerative lesion/healed ulcer
- ❖ Grade 1 - Superficial ulcer
- ❖ Grade 2 - Ulcer deeper to Subcutaneous tissue exposing soft tissue or bone
- ❖ Grade 3 - Abscess formation or osteomyelitis
- ❖ Grade 4 - Gangrene of part of tissues/limb/foot
- ❖ Grade 5 - Gangrene of entire one area/foot

3.

+ Classification of Ulcer:

A. Clinical

- ▶ Spreading : (Edge - Inflamed & Edematous)
- ▶ Healing : (Edge is sloping with healthy red granulation tissue & serous discharge)
- ▶ Callous : (Floor contains pale unhealthy granulation tissue with indurated edge)

B. Pathological

- ▶ 1. Nonspecific
- ▶ 2. Specific
- ▶ 3. Malignant

- Non-specific:
 1. Traumatic ulcer: acute, superficial, painful
 2. Arterial ulcer:

- Arterial Ulcer

- Caused due to peripheral vascular disease
- LL : Atherosclerosis & TAO
- UL : Cervical Rib, Raynauds
- Chief complaint : Severe Pain
- Toes, Feet, Legs & UL Digits

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3. Venous ulcer:

- Venous ulcers
 - ▶ Medial aspect of lower 3rd of lower limb
 - ▶ Ankle (Gaiters Zone) : Chronic Venous HTN
 - ▶ Ulcers are Painless
 - ▶ Varicose Veins or Post Phlebitic limb (PTS)

4. Neurogenic ulcer:

5. Infective ulcer

6. Diabetic ulcer:

- Diabetic Ulcer
- It may be caused due to
- Diabetic Neuropathy
 - Diabetic Microangiopathy
 - Increased Glucose : Increased Infection
 - Foot (Plantar), Leg, Back, Scrotum, Perineum
 - Ischemia, Septicemia, Osteomyelitis,

7. Tropical ulcer:

- Trophic Ulcer
- Pressure Sore or Decubitus Ulcer
 - Punched out edge with slough on the floor
 - Ex: Bed Sores & Perforating ulcers
 - Develop as a result of Prolonged Pressure
 - Sites : Ischial Tuberosity > Greater Trochanter > Sacrum > Heel > Malleolus > Occiput

8. cryopathic ulcer

9. Martorell's ulcer

10. Bazin's ulcer

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- Specific:
 1. Tuberculosis.
 2. Syphilis.
 3. Actinomycosis.
 4. Melaney's ulcer
 5. Soft sore.
- Malignant:
 1. Squamous cell Ca.
 2. Basal cell Ca
 3. Malignant melanoma.



INVESTIGATIONS FOR AN ULCER

Study of discharge:

- Culture and sensitivity, AFB study,
- cytology.

Wedge biopsy:

- Biopsy is taken from the edge because edge contains multiplying cells.
- Usually two biopsies are taken.
- Biopsy taken from the centre may be inadequate because of central necrosis

- X-ray of the part to look for periostitis/osteomyelitis.
- FNAC of the lymph node.
- Chest X-ray, Mantoux test in suspected case of tuberculous ulcer.
- Haemoglobin, ESR, total WBC count, serum protein estimation (albumin).

MANAGEMENT OF AN ULCER

- Cause should be found and treated.
- Correction of the anaemia, deficiencies like of protein and vitamins.
- Proper investigation as needed.
- Transfusion of the blood if required.
- Control the pain and infection.
- *Rest, immobilization, elevation, avoidance of repeated trauma.*

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- Care of the ulcer by debridement, ulcer cleaning and dressing.
- Desloughing is done either mechanically or chemically. Mechanically it is done using scissor by excising the slough.
- Hydrogen peroxide which releases nascent oxygen is used as chemical agent.
- Acriflavine is antiseptic and irritant and so desloughs the area and promotes granulation tissue formation.

- **Eusol (Edinburgh University Solution)** which contains sodium hypochlorite releases nascent chlorine which forms a water soluble complex with slough to dissolve it.
- Use of povidone iodine in ulcer cleaning is controversial (open wound is not suitable; it is mainly for cleaning the surgical field prior to incision).

- Maggots if present in the wound will cause crawling sensation and are removed using turpentine solution.
- Removal of the exuberant granulation tissue is also required when present.
- *Ulcer cleaning and dressing is done daily or twice daily or once in 2–3 days depending on the type of ulcer and type of dressing used.*

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- Normal saline is ideal for ulcer cleaning.
- Various dressings are available.
- Films (opside/semipermeable polyurethane), hydrocolloids (duoderm), hydrogels (polyethylene oxide with water), hydroactives (nonpectin-based polyurethane matrix), foams.

Causes of formation of chronic/nonhealing ulcer

Local causes:

- ❖ Recurrent infection
- ❖ Trauma, presence of foreign body or sequestrum
- ❖ Absence of rest and immobilization
- ❖ Poor blood supply, hypoxia
- ❖ Oedema of the part
- ❖ Loss of sensation
- ❖ Periostitis or osteomyelitis of the underlying bone
- ❖ Fibrosis of the surrounding soft tissues
- ❖ Lymphatic diseases

General/Specific causes:

- ❖ Anaemia, hypoproteinaemia
- ❖ Vitamin deficiencies
- ❖ Tuberculosis, leprosy
- ❖ Diabetes mellitus, hypertension
- ❖ Chronic liver or kidney diseases
- ❖ Steroid therapy locally or systemically
- ❖ Cytotoxic chemotherapy or radiotherapy
- ❖ Malignancy