

# Chronic leg Ulcers

An ulcer is a loss of continuity of the surface epithelium of a tissue or organ.

## Classification

- (1) Specific
- (2) Non specific
- (3) Neoplastic ulcers.

## Specific Ulcers

These ulcers have specific microbial causes and in addition many of them have distinguishing clinical features.

- ✓ Tropical ulcers is characterized in its early stages by having a sloppy edge with the floor covered with slough containing numerous fusiform bacteria and spirochaetes. If neglected, it may develop into a chronic non-specific ulcer.
- ✓ Tuberculous ulcers
- ✓ Syphilitic ulcers
- ✓ Yaws cause by
- ✓ Buruli ulcers caused by Mycobacteria ulceran

## Non specific ulcers

These ulcers are not caused by any specific organism. They are usually caused by physical or biochemical agents or are sometimes due to defects in the function of certain tissues in the patient.

1. Traumatic ulcers
2. Ulcers of vascular origins
  - Venous ulcers
  - Arterial ulcers
  - Decubitus (pressure) ulcers.
3. Ulcers of Neurological origin
  - Diabetic Neuropathy
  - Leprosy
  - Cord lesion
  - Syringomyelia
4. Ulcers associated with metabolic or systemic disease.
  - Diabetic ulcers
  - Haemoglobinopathic ulcers
5. Neoplastic ulcers
  - Squamous cell carcinoma
  - Rodent ulcers
  - Malignant melanoma
  - Kaposi sarcoma.

## Other terms

Trophic Ulcers are due to impairment of tissue nutrition. It is seen in chronic ischemia and or anaesthesia. Thus any ulcer secondary to neuropathy or vasculopathy can also be referred to as trophic ulcer.

Perforating Ulcers are usually secondary to anaesthesia in the planter skin of the foot usually over a bony prominence. It may penetrate to the bone and the joint.

### Pathophysiology of ulcers

3 stages can be identified:

- (1) **Extension** – This is the initial stage. The floor is covered with exudates & sloughs. The discharge is purulent.
- (2) **Transition** – This prepares for healing. The floor is cleaner and discharge diminishes.
- (3) **Repair** – Granulation tissue covers the floor. It is the stage of scar formation.

### Examination of an ulcer

- (1) **Site** – may be important in differentiating ulcers e.g. venous ulcer are usually on the distal third of the leg, just above the malleoli.
- (2) **Size**
- (3) **Shape**
- (4) **Edge:**
  - Healing / non-specific ulcers have *sloping edges*.
  - Tuberculous ulcer edge is *undermined*
  - Malignant ulcers have *raised edges*
  - Syphilitic ulcers have *punched-out edges*
- (5) **The floor** is what is seen. It may be covered with slough or have granulation tissues, blood, scabs etc.
- (6) **Base:** This is what can be palpated. It may be indurated, mobile or attached to deeper structure.
- (7) **Discharge** - Purulent discharge indicates active infection.
- (8) **Tenderness**
- (9) **Surrounding skin:** Check for scar, dilated veins, edema, temp, sensation, colour, presence / absence of hair, is the skin shining and look fragile?
- (10) **Peripheral pulses** – distally and proximally
- (11) **Draining lymph node.**
- (12) **General examination**

### Investigations

1. Swab for m/c/s and AFB.
2. Duplex ultrasound
3. Arteriography/ venography
4. Plain x-ray [underlying bony changes].
5. Biopsy – To confirm diagnosis especially in malignancies.
6. Urine sugar & albumin.
7. Biochemical / Haematological
  - Fasting blood sugar / 2 hour postprandial
  - VDRL – syphilis
  - ESB
  - Mantoux test.

### Treatment

#### **General**

- Nutritional rehabilitation.
- Treat the underlying cause e. g. diabetic if there is any.

## Local

- Debridement.
- Wound dressing
- Elevation
- Antibiotics

## Surgery

- Skin grafting
- Flaps
  - Local
  - Distant
  - Pedicle.
- Wide excision + grafting
- Amputation especially in malignant cases.

# Lymphoedema

## Anatomy / Physiology

The lymphatic of the lower leg terminates in the lowest group of the vertical chain of inguinal lymph nodes opposite the lesser trochanter whereas those from the thigh terminate in the proximal group opposite the femoral head. Hence, when both groups are involved, the whole limb is edematous, whereas edema is below knee if only the lower group is involved.

Lymph vessels provide a path for the return of the protein rich particulated fluid that cannot drain through the venous systems lead. Their blockage leads to a slow accumulation of this fluid in the tissue. The edema is initially pitting.

Prolonged accumulation of this fluid results in tissue anoxia, inflammation and hyperplasia of the subcutaneous tissue and later keratosis of the epidermis. At this stage it is no longer pitting.

## Causes

It can be congenital or acquired.

### (1) Congenital.

This is due to either hypoplasia or aplasia of the lymphatic vessels. The diagnosis is made by doing lymphangiography. Clinically it can present in three ways:

- Lymphoedema congenital.
  - Most severe, usually secondary to aplasia and is present at birth.
- Lymphoedema praecox
  - Presents around puberty.
- Lymphoedema tarda
  - Presents in adults

### (2) Acquired

This is caused by the following agents:

- Parasitic
  - Wuchereria bancrofti (filariasis)
  - Onchocerciasis
  - Schistosomiasis
- Inflammatory

- Tuberculous adenitis
- Pyogenic adenitis
- Lymphogranuloma inguinale.
- (c) Non inflammatory
  - Malignant obstruction
  - Surgical excision (e.g. following radical mastectomy)
  - Irradiation

In South western Nigeria, Tuberculous and chronic pyogenic adenitis are the commonest causes.

### **Clinical features**

#### Onset

- Insidious and slowly progressive in all cases, it starts in the most dependent part.
- Usually preceded by prolonged period (Months to years) of lymphadenitis (Tuberculous) or recurrent acute lymphadenitis (pyogenic causes).
- There may be associated fever, malaise, cough, chest pain e. t. c.

### **Examination**

*Site:* This may involve the entire limb, the leg and foot alone or the scrotum. Upper limb lymphoedema is usually secondary to surgery or irradiation. Filariasis is usually responsible for scrotal lymphedema.

*Pitting* – They are non- pitting. But when seen in the early periods, they can be pitting.

#### *Regional lymphadenopathy*

- These are usually matted but may also be small and fibrotic especially in pyogenic lymphoedema.
- There may be discharging sinuses.

### **Investigation**

- ✓ Lymphangiography
  - May show hypoplasia / aplasia (congenital)
  - May show dilated or tortuous vessels which are obstructed in the groin. (Acquired).
- ✓ Biopsy of regional lymph node
- ✓ Blood smear (taken in the night) for microfilaria
- ✓ Frei's test
- ✓ Mantoux test.

### **Treatment**

- (i) Treatment of the underlying cause. E.g. Filariasis – Banocide.
- (ii) Treatment of Established lymphedema.  
This involves excision of the edematous subcutaneous tissue. Raw areas in which the skin has been excised along the subcutaneous tissue are grafted.