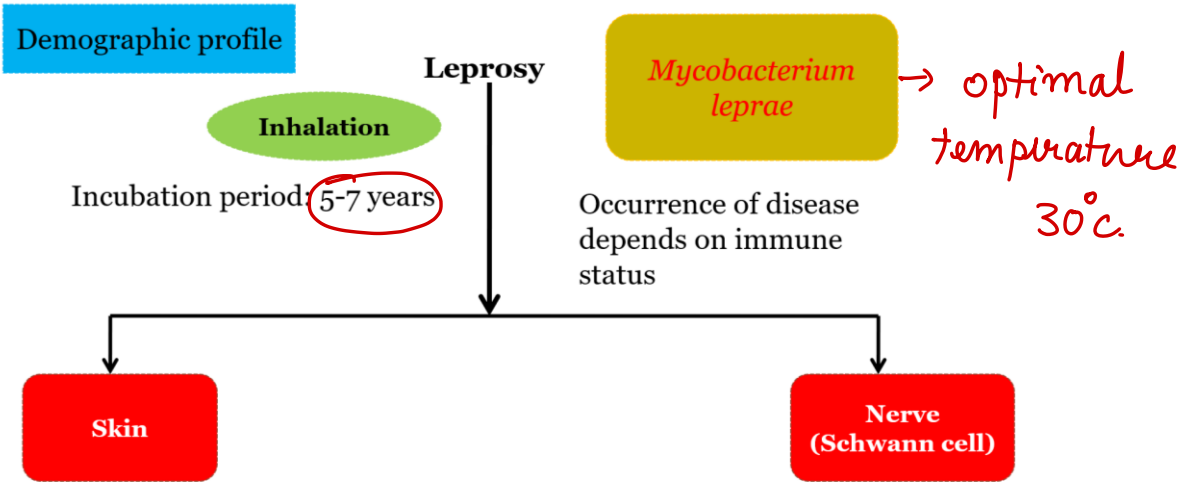
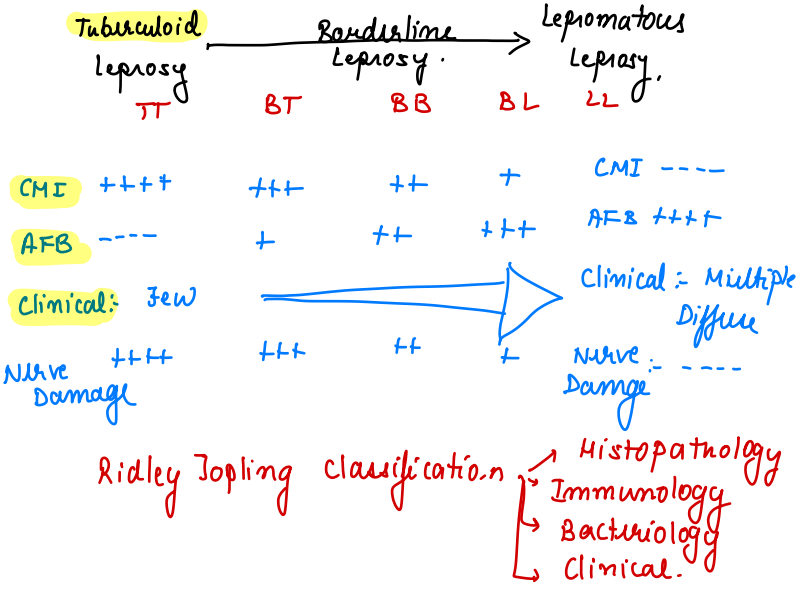
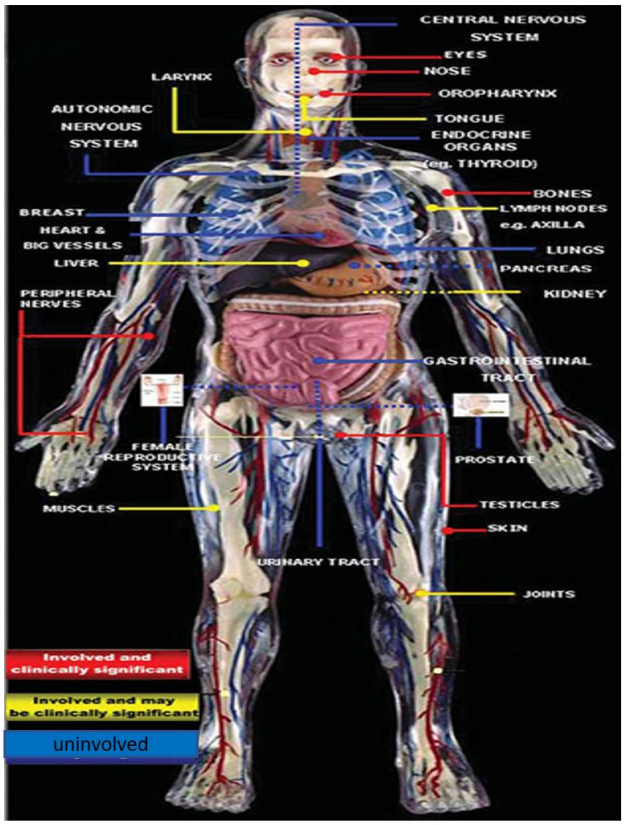
LEPROSY


Demographic profile
Leprosy
Inhalation
Incubation period: 5-7 years
Mycobacterium leprae
→ optimal temperature 30°c.
Occurrence of disease depends on immune status
Skin
Nerve (Schwann cell)


Tuberculoid leprosy
Borderline Leprosy.
Lepromatous Leprosy.
TT
BT
BB
BL
LL
CMI ++++ +++ ++ + CMI ----
AFB ---- + ++ +++ AFB ++++
Clinical:- Few
Clinical:- Multiple Diffuse
Nerve Damage ++++ +++ ++ +
Nerve Damage:- ----
Ridley Jopling Classification
Histopathology
Immunology
Bacteriology
Clinical.

- Non cultivable
- Grown in animal models(armadillo and mice)
- Multiplies (generation time) in 11-13 days



Ridley-Jopling Classification

- based on clinico-pathological spectrum

POLAR GROUP | BORDERLINE GROUP | POLAR GROUP

T.T. B.T. B.B. B.L. L.L.

Criteria :- Clinical

Indian classification

- A single well defined plaque on face
- Indeterminate type Child
- Tuberculoid type 1-5 well defined plaque
- Borderline type >5, Multiple b/L Asymm
- Lepromatous type Multiple b/L symm
- Pure neuritic type
  No cutaneous lesion, only nerve damage

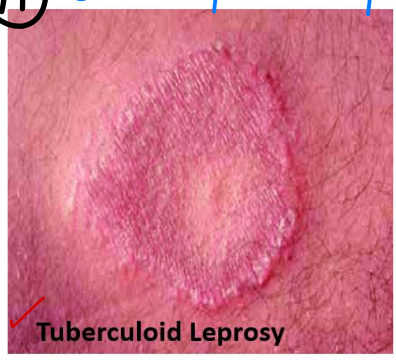
sloping Inner perpendicular outer

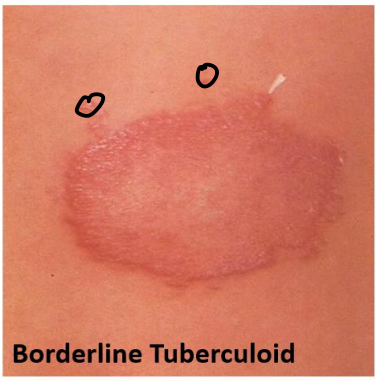
punched out appearance / swiss cheese appearance

Inner perpendicular Outer sloping

TT saucer placed upside

BB Inverted saucer shape appearance





LL

LepromatousLeprosy

BT satellite lesions +

BL Multiple Asymmetrical plaque

LL Leonine Facies Multiple symmetrical plaque

C/F Dry patches on the skin

Pure Neuritic Leprosy

DD Pityriasis Alba

C/F Itching and scalling
No Atrophy No scarring

Indeterminate Leprosy

HISTOID LEPROSY

Relapse cases

Drug Resistance (Dapsone Monotherapy)

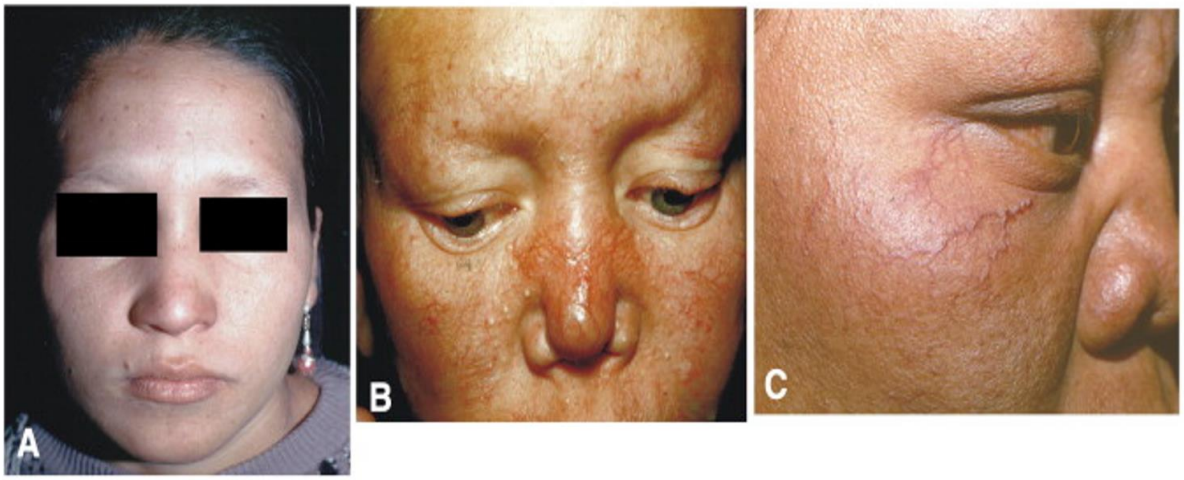
C/F Multiple Asymptomatic Nodules (5-50)

smear :-
AFB ++++
IVIII
Globi

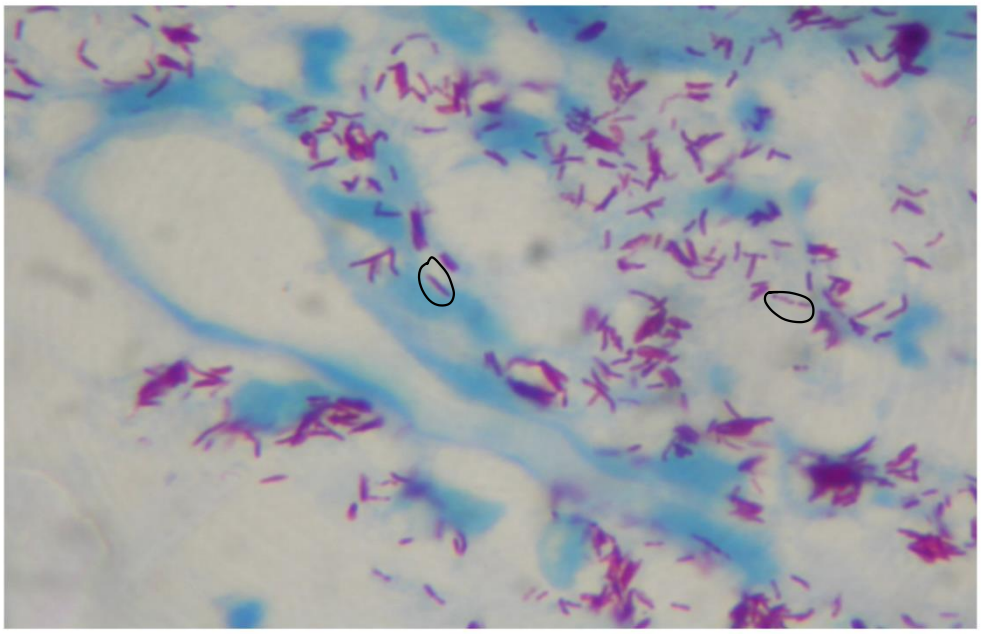
C/F Diffuse Infiltration in the skin

Mexico

Lucio leprosy / Lepra Bonita / Beautiful Leprosy



Lucio phenomena → ulceration of skin



Live Bacilli

Long [L = 5 B]
parallel margin
Round edge

Dead bacilli

Broken, Fragmented
Granular

Reading of smears

- *Bacteriological index* - Indicates density of leprosy bacilli (live & dead) in the smears
- Ranges from 0 to 6+

6+	Many clumps of bacilli in an average field (over 1000)
5+	100-1000 bacilli in an average field.
4+	10-100 bacilli in an average field.
3+	1-10 bacilli in an average field.
2+	1-10 bacilli in 10 fields.
1+	1-10 bacilli in 100 fields.

Note: Record the BI for each smear separately and calculate average or best is to report the highest BI. A simplified reporting.

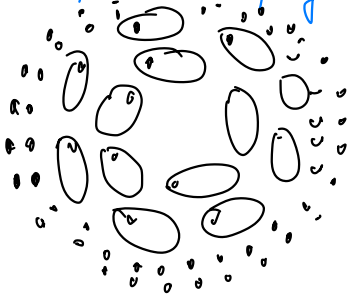
- *Morphological index* - It is the percentage of presumably living bacilli in relation to total number of bacilli in the smear

- Criteria of living bacilli

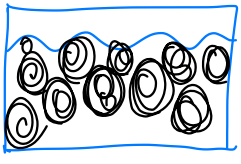
1. The entire organism must be uniformly stained
2. The longitudinal sides are parallel
3. Both ends are rounded
4. The length is 5 times its width

HISTOPATHOLOGY

Tuberculoid leprosy

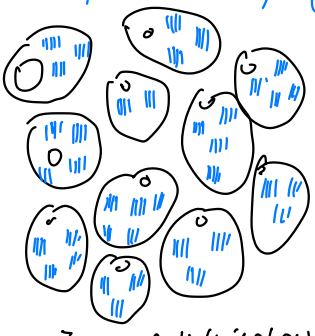


Epithuloid Granuloma



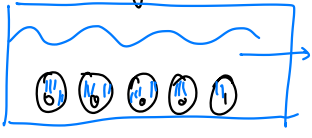
No Grenz zone.

Lepromatous leprosy

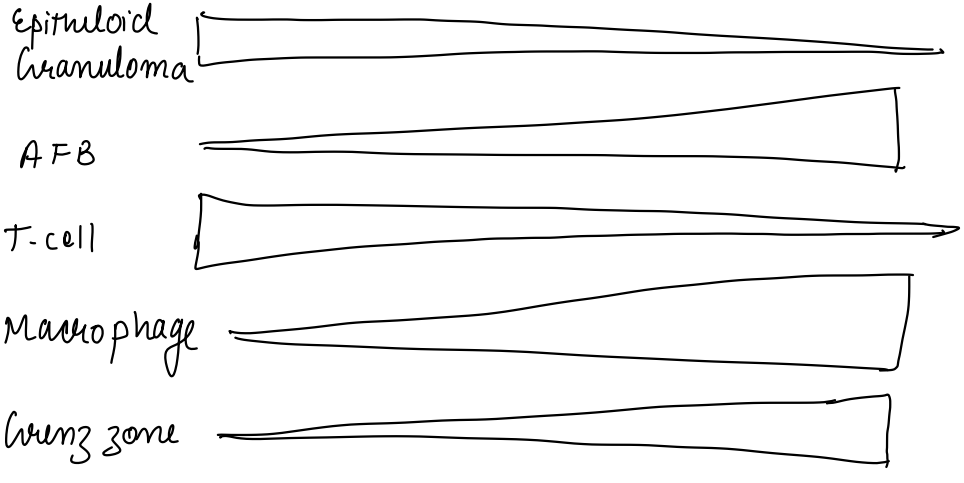


Foam cell / Virchow cell

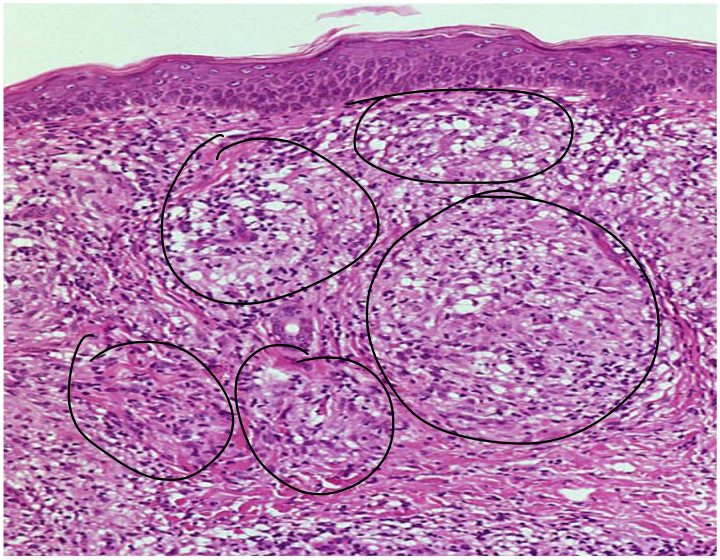
Macrophage filled with AFB



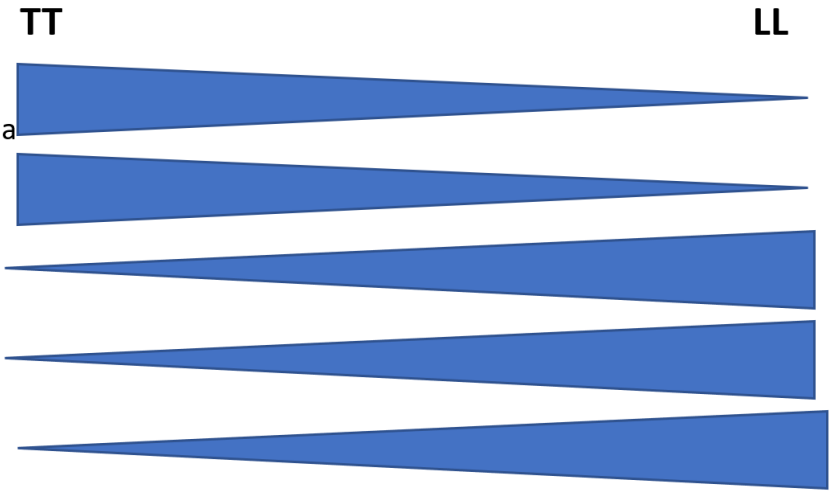
TT BT BB BL LL



✓ Tuberculoid leprosy



Lepromatous leprosy



1. Epitheloid granuloma
2. Lymphocytes
3. Macrophages
4. AFB
5. Grenz zone

Leprosy WHO

Paucibacillary

Skin lesion 1-5
or
Nerve Thickening ⊖
or
smear ⊖

3 Drugs X 6 month

6 packets x 9 months

Multibacillary

Skin lesion >5
or
Nerve Thickening ≥ 1
or
smear +ve

3 Drugs x 12 months

12 packet x 18 month

Adult :-

child

(B) : 600mg, once a month, supervised

450mg, once a month, supervised

(C) = 300mg, once a month, supervised

150mg, once a month, supervised

50mg, once a day, Non-supervised

50mg, alternate day, Non-supervised

(D) = 100mg, once a day, Non-supervised

50mg, once a day, Non-supervised

Leprosy Reaction

Type 1

Borderline Leprosy

BB, BL, BT

Type 4 HSR

C/F Exacerbation of Existing lesion

Nerve Damage ⊕

Type 2

Lepromatous Leprosy

LL, BL

Type 3 HSR

C/F painful Nodules on the skin

Erythema Nodosum Leprosum

Nerve Damage ⊖

Systemic Features.

Treatment of Lepra Reaction (Type 1 & 2)

Continue MDT + Add steroids (systemic) (DOC)

Thalidomide = side effect:- Teratogenicity
Peripheral Neuropathy
constipation
somnolence
peripheral edema.

clofazimine = side effect: pigmentation
Dryness
Intestinal obstruction

Extra points

1. MC nerve affected = Ulnar > post. tibial
2. MC cranial nerve (on face) = CN 7 > CN 5
3. Organ spared = CNS, Lungs, Heart, Blood vessel, Thyroid, Prostate, Uterus, Ovary, Urinary Tract
4. Chemoprophylaxis =

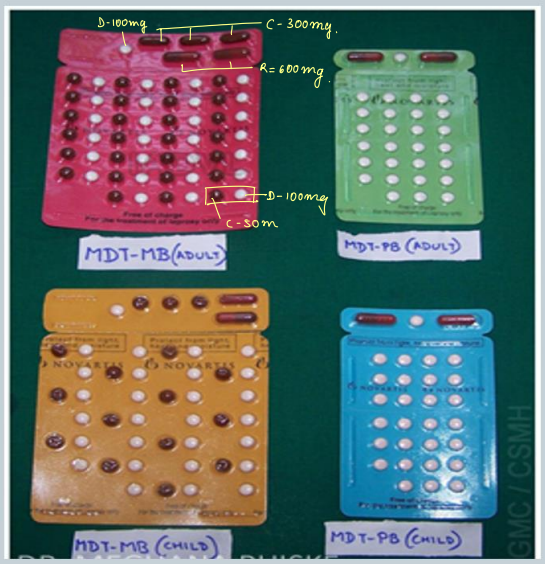
   Indicated = Age > 2 yr
   contact Duration > 20 hr/wk
   Chronic exposure > 3 mth
   share same roof and kitchen

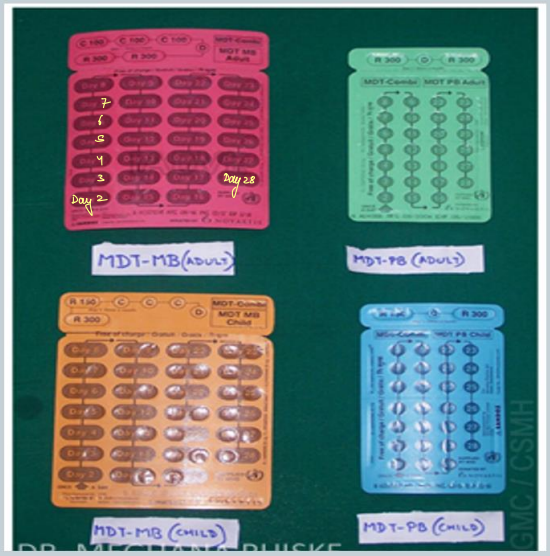
   single Dose Rifampicin
   (i) = 450 mg (A) 600 mg.

Lepromin Test:- Intradermal test

- Based on CMI
- Type 4 HSR
- Early / Fernandez → within 48hr
- Late / Mistuda → 1-2 wk.

Never used as Diagnostic test



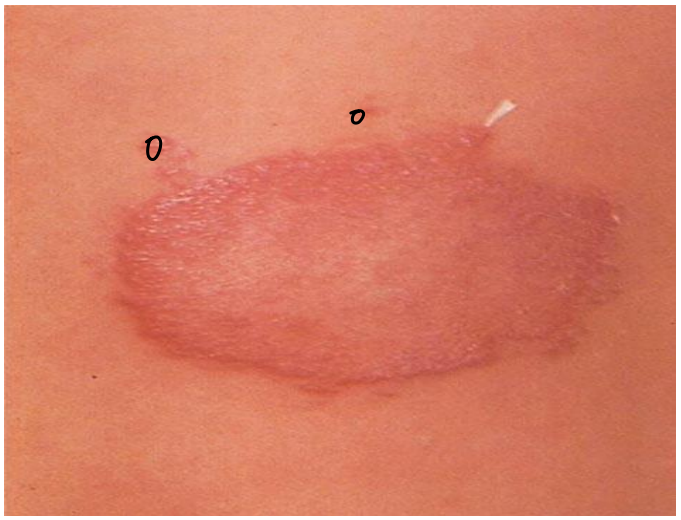


Q) Inverted saucer shaped lesion is found in

1. Lepromatous leprosy
2. Tuberculoid leprosy
3. Borderline leprosy ✓ (BB)
4. Indeterminate leprosy

Q) A single erythematous anesthetic patch with satellite lesions on forearm, likely diagnosis is:

1. Indeterminate leprosy
2. Tuberculoid leprosy ✓ (BT)
3. Neurotic leprosy
4. Lupus vulgaris



Q) Histoid leprosy is:

1. Non-nodular diffuse form
2. Seen in relapse of leprosy ✓
3. Facies leonina
4. Common in central americans

Q) Commonest nerve involved in leprosy is:
1. Ulnar
2. Median
3. Radial
4. Sciatic

Q) The earliest sensation to be lost is leprosy is:
1. Loss of pin prick
2. Cold
3. Hot
4. Pressure touch

cold > hot > pain > touch

Q) In leprosy nerves commonly involved are:
1. High ulnar, low median
2. High median, low ulnar
3. Triple nerve palsy
4. High radial, low median

Q) Ridely Joppling classification of leprosy does not include?
1. TT Leprosy
2. BT Leprosy
3. Indeterminate Hansen
4. LL Hansen

Q) Which of the following organ is not involved in leprosy?
1. Testes
2. Bone
3. Ovary
4. Skin

Q) A 27 year old patient was diagnosed to have borderline leprosy and started on multibacillary MDT. Six weeks later he developed pain in the nerves and redness and swelling of the skin lesins. The management of his illness should include all of the following except?
1. Stop antileprosy drugs
2. Systemic corticosteroids
3. Rest to limb affected
4. analgesic

Type 1 reaction

- Type IV hypersensitivity reaction
- BB/BL/BT

Increased inflammation of some or all pre-existing skin patches

Sudden loss of sensation

Burning sensation

1. Edema of extremities
2. Neuritis
3. Loss of nerve function

Type 2 reaction

- Type III hypersensitivity reaction
- BL/LL

Sudden appearance of crops of evanescent pink colored tender papules, nodules and plaque variable in size

Constitutional symptoms

Except: scalp,axilla,groin and perineum

Nerve damage- late/no

COMPARISON B/W T-1 AND T-2 REACTION

FEATURE	T-1 REACTION	T-2 REACTION
type of reaction	type IV or DHT	type III or Arthus
type of leprosy	borderline	lepromatous
constitutional features	usually absent	present
skin lesions	existing lesions become red and painful	new lesions appear no change in previous lesions
nerves	acute neuritis with loss of nerve function	not affected so commonly or severely
eye	corneal anesthesia and lagophthalmos	int. diseases like iridocyclitis
other organs	not involved	may be affected
treatment	nsaids, steroids	nsaids, steroids,clofazimine, thalidomide

Q) All are true about lepra reaction typeII except?

1. Seen in tuberculoid leprosy ✗
2. Seen in lepromatous leprosy ✓
3. Arthus type reaction ✓
4. Thalidomide is the most effective drug ✓

Q) Drug of choice for lepra reaction type I ?

1. Aspirin
2. Thalidomide
3. ✓ Corticosteroids
4. penicillin

Q)Which of the following is not a feature of lepra reaction?

1. Fever
2. Exacerbation of existing lesions
3. Appearance of new lesions
4. Fall in ESR

Q) What is correct about leprosy control programmes?

1. Slit smears are required to diagnose and follow leprosy patient
2. Reactions, if severe, require temporary cessation of MDT
3. Thalidomide is used as preferred drug for type 2 reaction
4. Clinical diagnosis alone is used as basis of instituting MDT

Q)The first line antileprosy drug includes all except?

1. Dapsone
2. Thiacetazone
3. Clofazimine
4. Rifampicin

Q)Most effective drug against M leprae is:

1. Dapsone
2. Rifampicin
3. Clofazamine
4. Prothinamide