



# HISTOID LEPROSY

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CLTRI



# OVERVIEW

❖ INTRODUCTION

❖ EPIDEMIOLOGY

❖ DIAGNOSIS

❖ DIFFERENTIAL DIAGNOSIS

❖ TREATMENT

# INTRODUCTION

- Wade - 1960
- MB leprosy
- Cutaneous / subcutaneous nodules & plaques
- Unique histopathology & characteristic bacterial morphology.
- Diamino -diphenyl-sulphone-long time
- Irregular & inadequate therapy.
- Occasional in borderline & indeterminate leprosy.

- Cell mediated immunity reduced
- Increased humoral response –increased B cell count, IgG, IgA & IgM.

# EPIDEMIOLOGY

- Incidence – 2.8%
- >MB leprosy or
- In relapsed patients taking irregular anti-leprosy dgs.
- In untreated patients
- Rare in children but most common in 20-39 yrs of age.
- Males > Females

# DIAGNOSIS

- History
- Clinical Features
- Microscopic examination

# HISTORY

## Treatment details:

❖ Nature of drug

❖ Duration

❖ Regularity

❖ Dose

❖ Frequency

# CLINICAL FEATURES

- Histoid lesions can 3 to >50 lesions.
- Common sites
  - back,
  - buttocks
  - face,
  - extremities & over bony prominences around elbows & knees.
- Lesions - dermis, elevated & protuberant, & even pedunculated.







- Firm, reddish, or skin colored, dome shaped or oval papules, regular in contour with shiny & stretched overlying skin, at times constriction around their base.
- Wide spread eruption - the mucosa of the oral cavity, hard palate.
- Koebner's Phenomenon present



# TYPES OF LESION

## *Nodules-*

- Subcutaneous
- deeply fixed cutaneous nodules
- superficially placed cutaneous nodules
- soft nodules

## *Plaques or Pads*



- <5cm in diam
- Smaller nodules – soft.
- The cut surface - pulpy.
- Old lesions – fibrotic
  - cut surface - pale & tough.

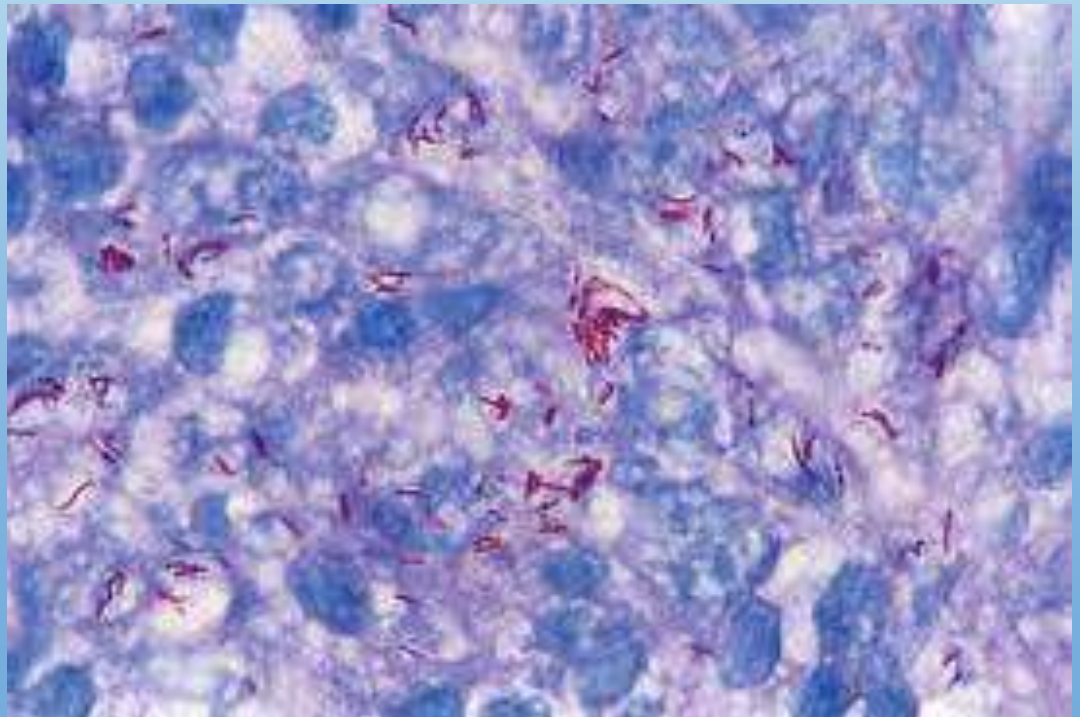


- **Histoid facies**- 2 types
  - First type- old wrinkled, atrophic facial skin, with scanty/absent eyebrows & sometimes with depressed nasal bridge & eye changes.

- Second type- apparently normal face without any apparent manifestation of leprosy.
- Majority - persistence of eyebrows.
- Nasal mucosa - spared.

# BACTERIOLOGY

- Slit skin smear – abundant uniformly stained, distinctly longer bacilli in clusters or globi or singly.





# HISTOPATHOLOGY

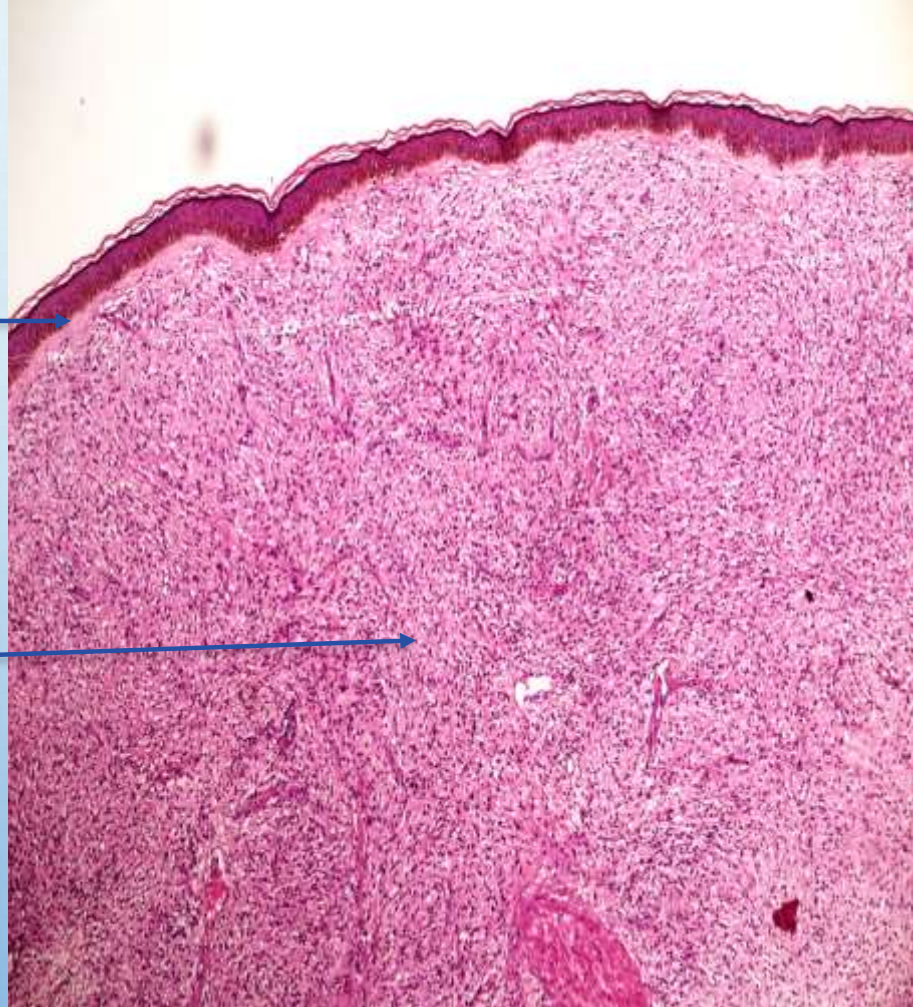
- Early lesions-
  - circumscribed lesions
  - predominant spindle shaped cells(Histiocytes) & or polygonal cells
  - usually larger number of AFB.
  - grows in expansile manner rather than infiltrative manner.
- Overlying epidermis- atrophic, mild acanthosis & flattened rete ridges.



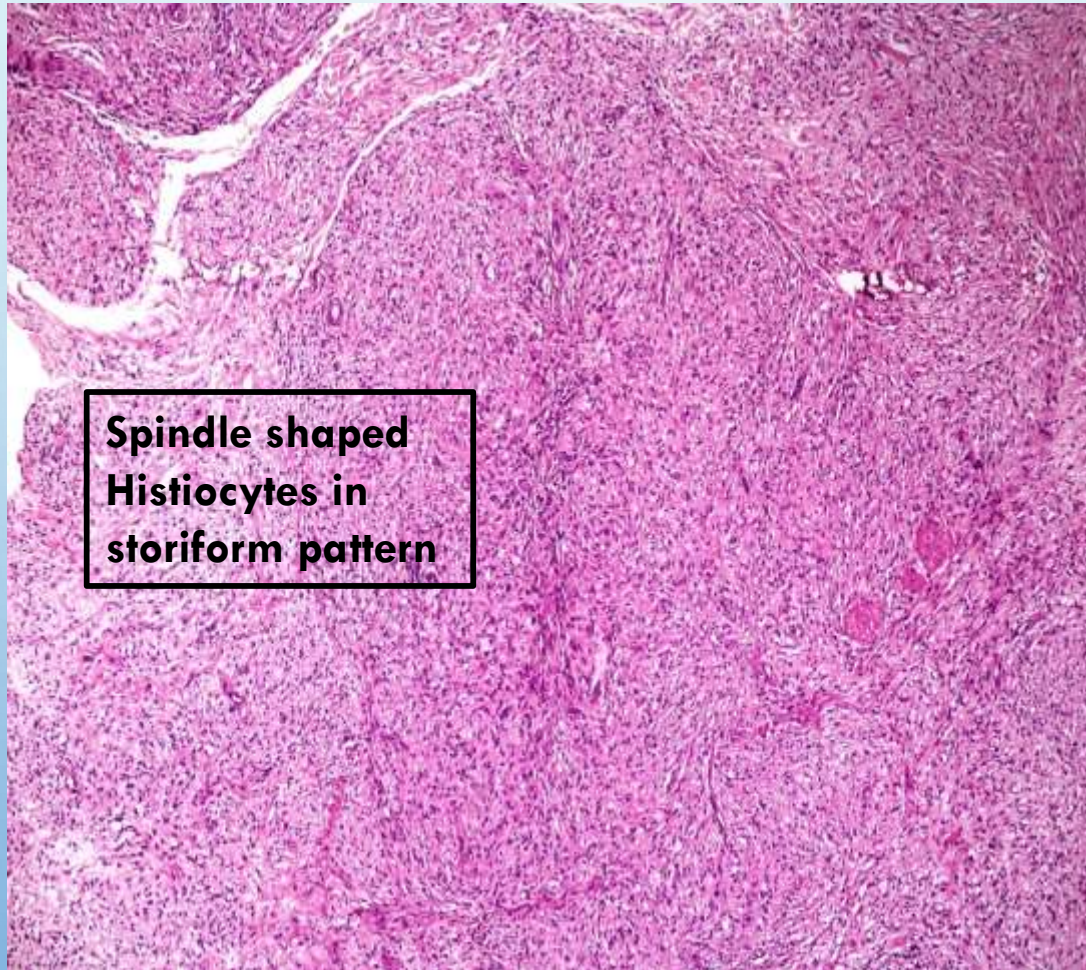
# MICROSCOPY – LOW POWER

**Thinned out  
epidermis with  
subepidermal  
grenz zone**

**Spindle shaped  
Histiocytes in  
storiform pattern**

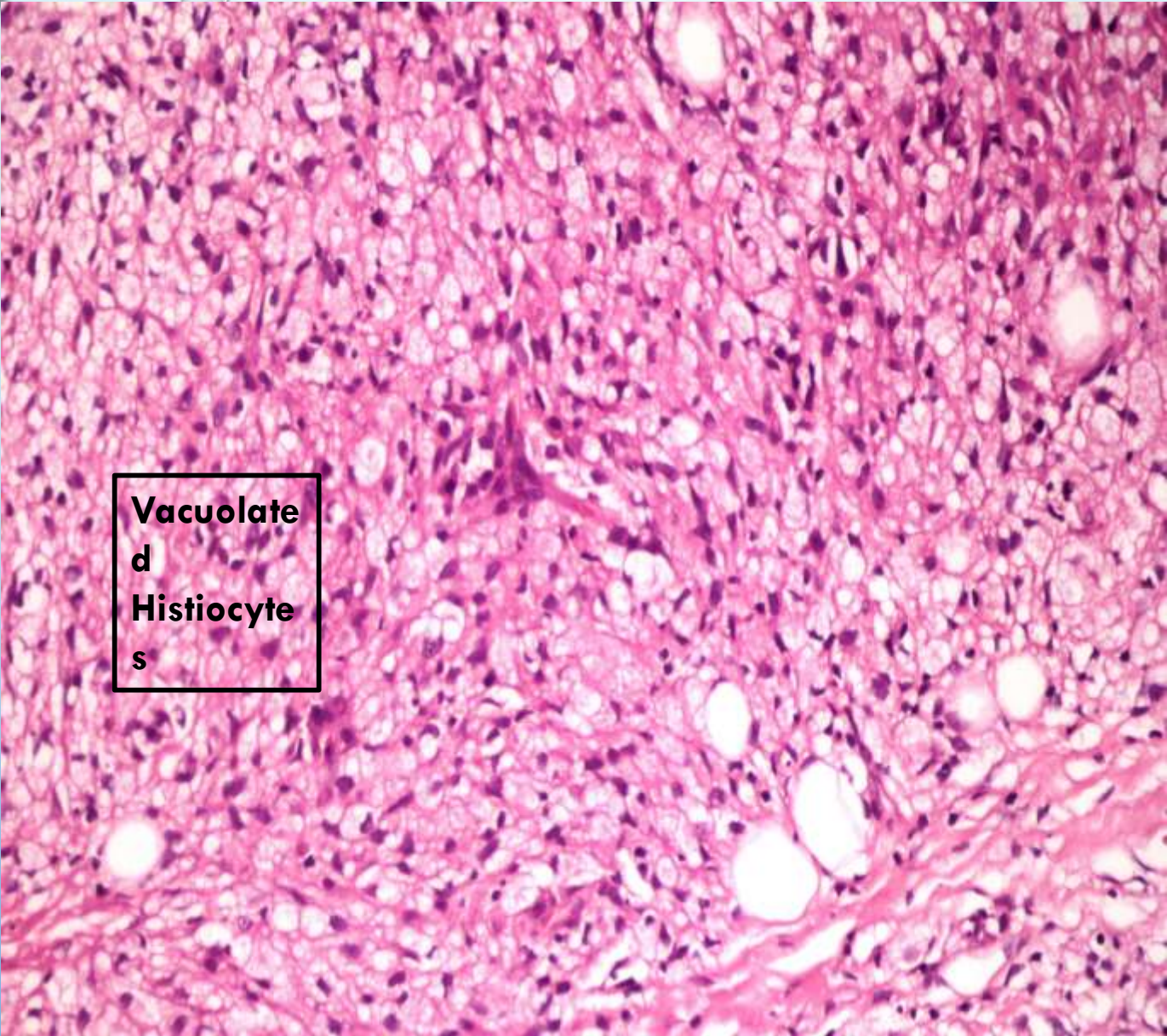






**Spindle shaped  
Histiocytes in  
storiform pattern**



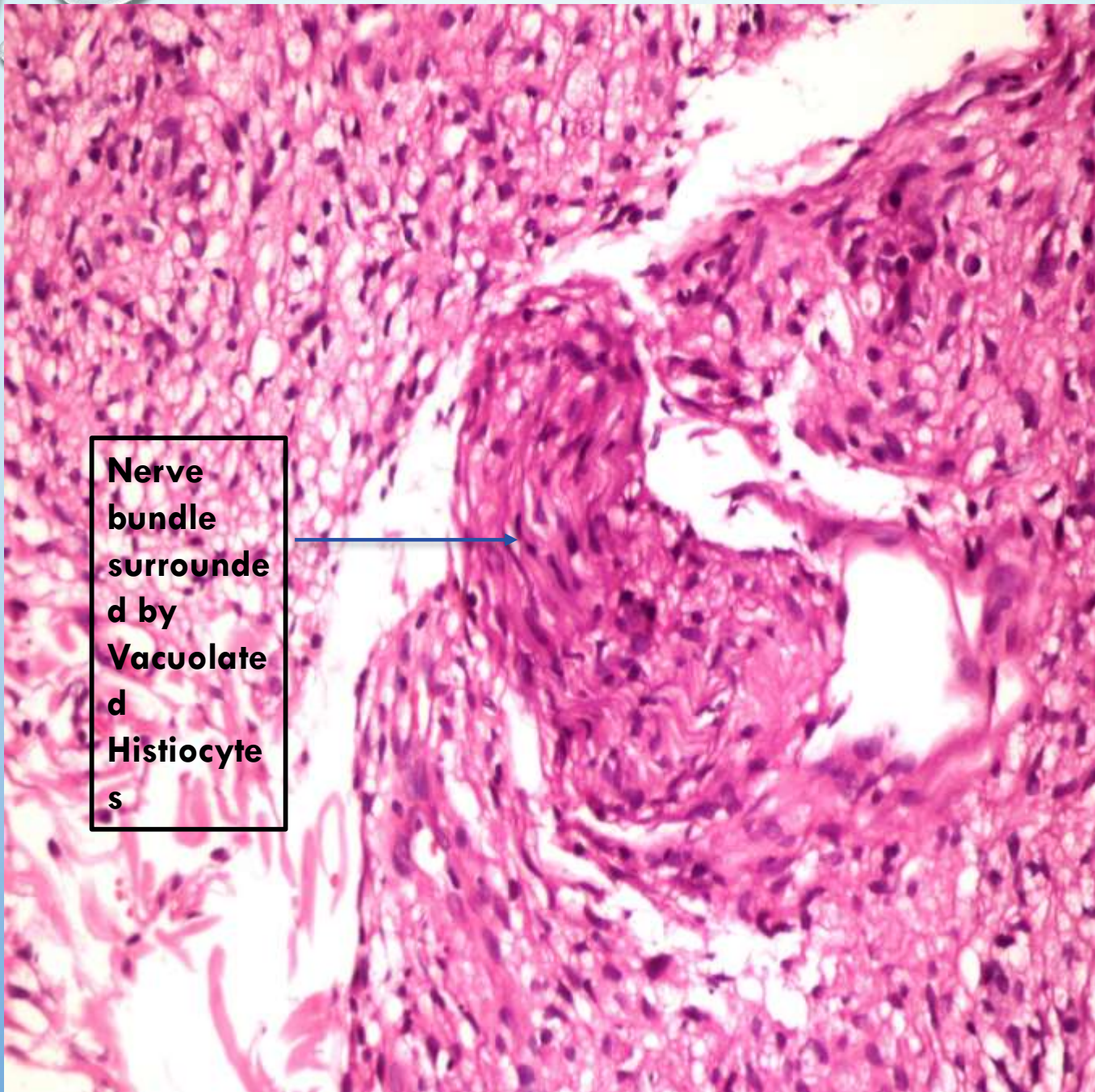


**Vacuolate  
d  
Histiocyte  
s**

This is a high-magnification photomicrograph of a tissue section stained with hematoxylin and eosin (H&E). The field is densely populated with cells. Many of these cells are histiocytes, which are characterized by their large, pale, foamy, or vacuolated cytoplasm. These cells are distributed throughout the tissue, often in clusters or along the edges of larger, more eosinophilic structures. The nuclei of these cells are typically small, dark, and eccentrically located. The overall architecture suggests a reactive or neoplastic process involving the mononuclear phagocyte system.

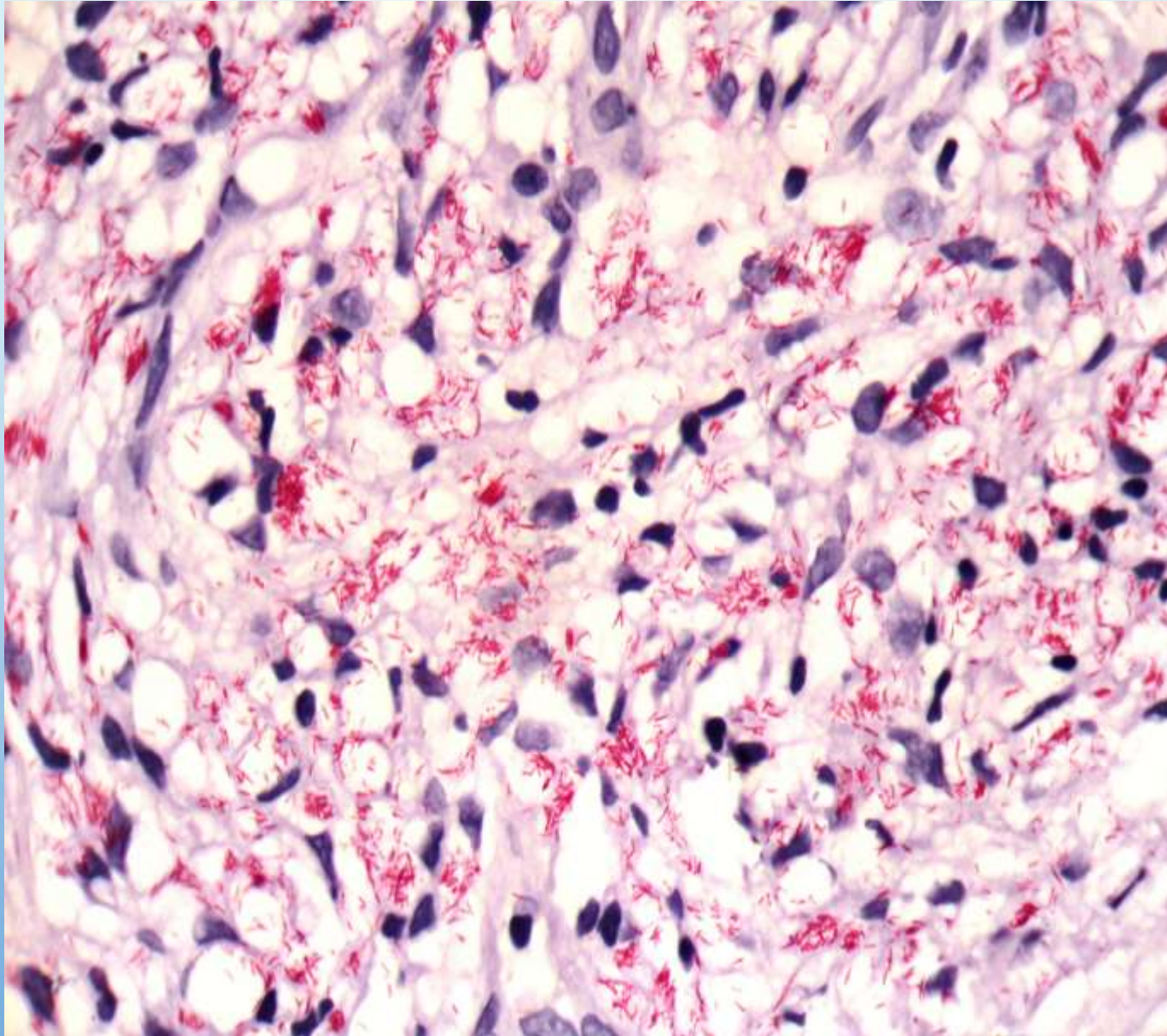


**Nerve  
bundle  
surrounde  
d by  
Vacuolate  
d  
Histiocyte  
s**





# WADE FITE STAIN



Pseudocapsule is often present.

**Numerous** thin, spindle-shaped **histiocytes** forming interlacing bands whorls and at times tight curlicules.

- Occasional lymphocytes polymorphonuclear cells at periphery of the nodule.
- Old lesions- deposition of collagen – fibrosis.
- Histiocytes - solid staining longer AFB.

# DIFFERENTIAL DIAGNOSIS

- Cutaneous lesion may simulate –
  - Lepromatous nodules,
  - ENL
  - Von recklinghausen's ds
  - Molluscum Contagiosum
- Cutaneous plaques
  - Keloids
  - Multiple cutaneous lipomatosis



- Post kala azar dermal leishmaniasis
- Cutaneous sarcoidosis
- Histologically-
  - Subepidermal fibrosis
  - Dermatofibroma

**Table 18.1: Differential diagnosis**

<i>Disease</i>	<i>Clinical</i>	<i>Histopathology</i>	<i>Others</i>
Histoid leprosy <sup>1</sup>	Superficial cutaneous or deep subcutaneous nodules are most common findings. Also seen are plaques or pads. Typical lesions are firm, reddish/skin colored, regular in contour with shiny and stretched overlying skin. Constriction around the base of the lesion (if present) is typical	Circumscribed lesion with spindle-shaped cells and unusually large number of bacilli. Grenz zone is mostly present. Interlacing bands, whorls and tight curlicules formed by numerous, thin, spindle-shaped histiocytes	<ol style="list-style-type: none"><li>1. Negative lepromin test</li><li>2. Raised immunoglobulins</li><li>3. Lowered complement component (C3)</li></ol>
Lepromatous leprosy <sup>20</sup>	Disseminated nodules and/or plaques, typical sensory loss (glove and stocking anesthesia) and trophic changes, ulcerations	Epidermal atrophy, clear subepidermal zone (Grenz zone) and foamy histiocytes, laden with lepra bacilli, granulomas are characteristic	<ol style="list-style-type: none"><li>1. Strongly positive Ziehl Neelsen and Fite-Faraco stain</li><li>2. Negative lepromin test</li></ol>
Post-kala-azar dermal leishmaniasis <sup>36,37</sup>	May appear as hypopigmented macules or micropapular or macropapular eruptions, nodules, plaques during or shortly after treatment (African—early) even after up to 10 years (Indian—late). Face is commonly affected	Granuloma comprises mainly of lymphocytes, macrophages and plasma cells in the dermis. LD bodies are rare in macules but are commonly seen in nodules	LD bodies are difficult to demonstrate. Positive immunofluorescence antibody test, enzyme-linked immunosorbent assay test, and fast agglutination screening test is a rapid test

Neurofibromatosis type 1, 3, 4	Multiple well-circumscribed, skin colored/ brown papulonodular lesions, Café au lait spots, intertriginous freckling (Crowe sign). On application of pressure the nodules may sink in a pit like depression, the Button-hole sign	Circumscribed lesions composed of Schwann cells, fibroblasts, mast cells in an admixture of collagen and extracellular matrix	<ol style="list-style-type: none"> <li>1. Cerebellar hamartomas, unidentified bright objects on magnetic resonance imaging</li> <li>2. Lisch nodules (iris hamartomas) on slit-lamp examination</li> </ol>
Sarcoidosis <sup>38-40</sup>	Firm, mobile nodules without epidermal involvement. Plaques and papules may also be found. Subcutaneous nodules, lupus pernio, erythema multiforme are some of the other nonspecific manifestations. Systemic involvement in form of hilar lymphadenopathy, pulmonary fibrosis may be encountered	A noncaseating naked (without the peripheral rim of lymphocytes) granuloma is cardinal. A reactive process without granuloma is a nonspecific finding	<ol style="list-style-type: none"> <li>1. Hypercalcemia</li> <li>2. CD4/CD8 ratio &gt; 3.5</li> <li>3. Abnormal chest radiogram</li> </ol>
Dermatofibroma <sup>42</sup>	Firm, minimally elevated, dome-shaped with central hyperpigmentation. Isolated small lesions. Pinching the lesion leads to an apparent downward movement, the dimple sign	Nodular dermal proliferations of predominantly spindle-shaped fibroblasts and myofibroblasts arranged as short intersecting fascicles	Positive immunohistochemical reactions for vimentin, muscle-specific actin

# TREATMENT

Drug	Doses	Duration
Rifampicin	600mg once a month, supervised	All three drugs for pd of at least 2 yrs & preferably till smear negatively.
Clofazimine	300mg once a month & 50mg daily.	
DDS diamino-diphenyl sulfone	100mg daily	

- **Newer drugs –**

- Ciprofloxacin
- Ofloxacin
- Sparfloxacin
- Clarithromycin
- Erythromycin
- Roxithromycin
- Minocycline
- amoxicillin & clavulanate
- Brodimoprim

# **RECAP**

- MB leprosy
- Nodules
- Histiocytes
- 2yrs MDT

The background is a light blue gradient, darker at the bottom. It is decorated with several realistic water droplets of various sizes, some with highlights and shadows, located in the top-left, top-right, and bottom-right corners.

THANK YOU