22 year Male patient diagnosed as – Erythema Nodosum Leprosum(Leprosy)

Dr Vipul M Patel

History :

Mr DM 22 yrs old male from district Mahisagar

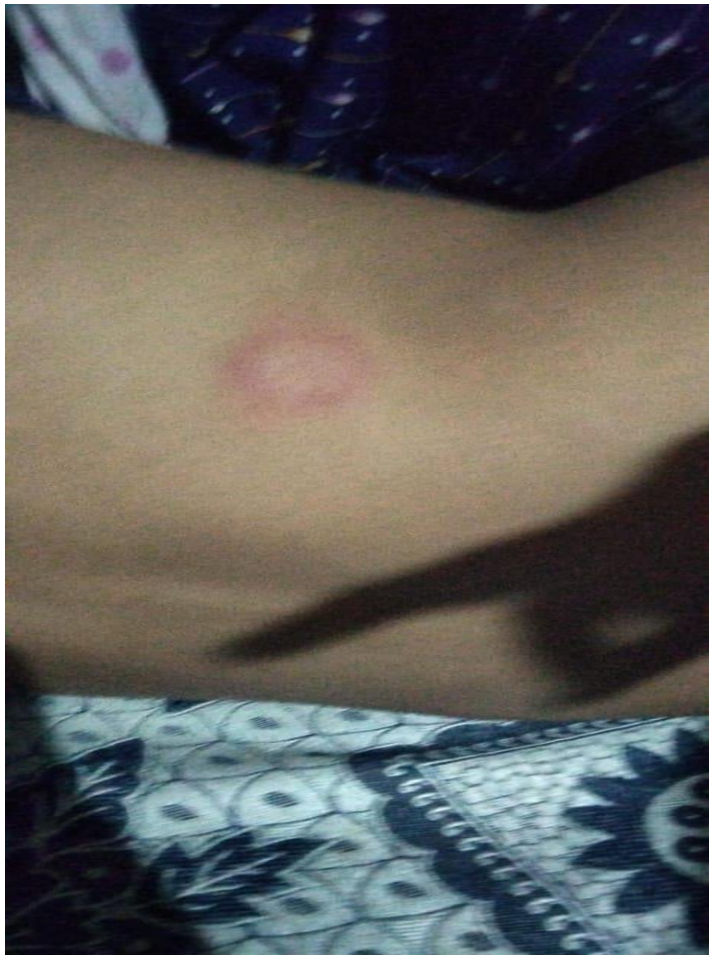
Presented 0n 12/9/2022

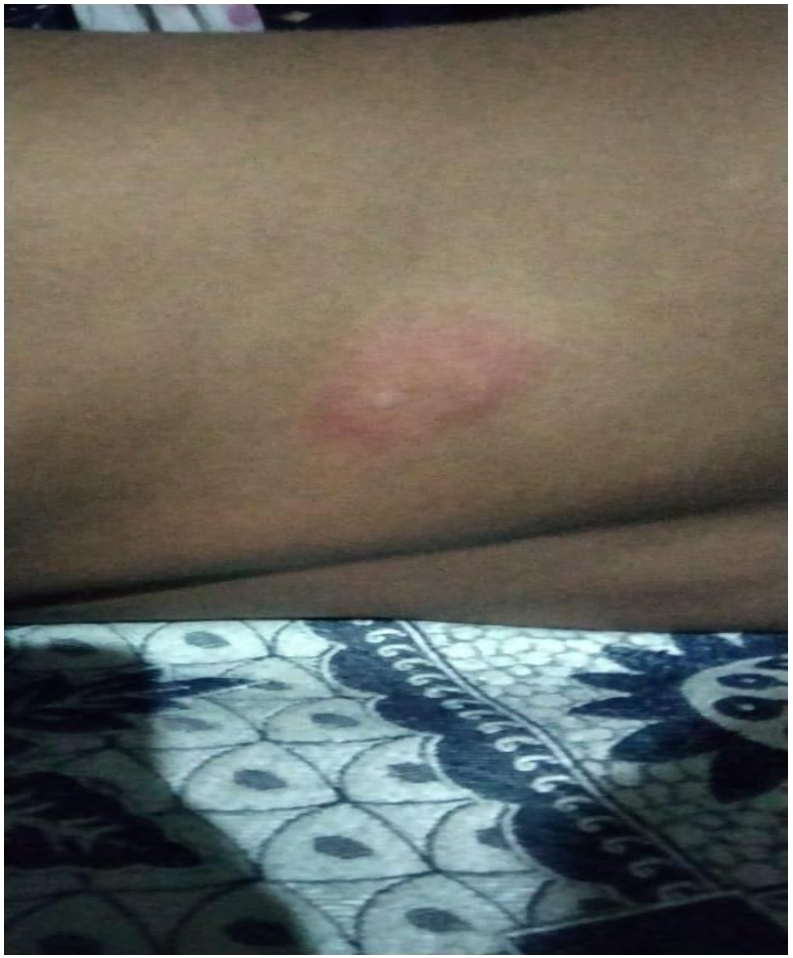
H/o: Evening rise low grade fever since 2 weeks,

- Multiple joints pain(elbow, ankle, knee) since 2 weeks,
- Weakness since 2 weeks,
- Multiple site skin lesions since 2 weeks,
- Pain in both inguinal region since 3 days.

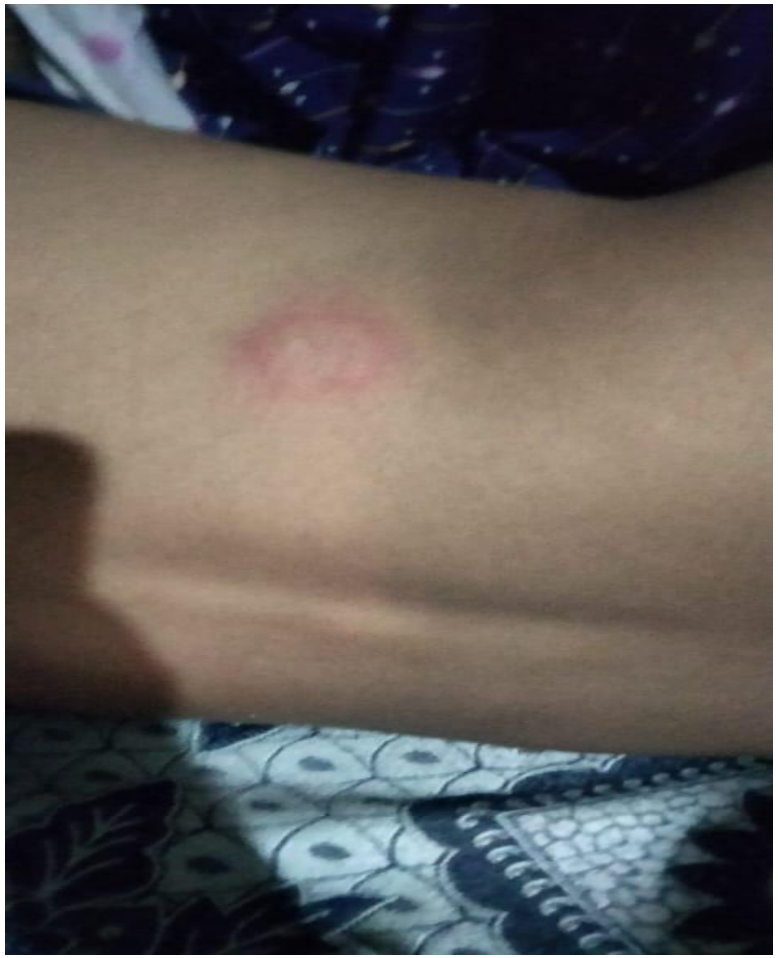
First Consulted with dermatologist.

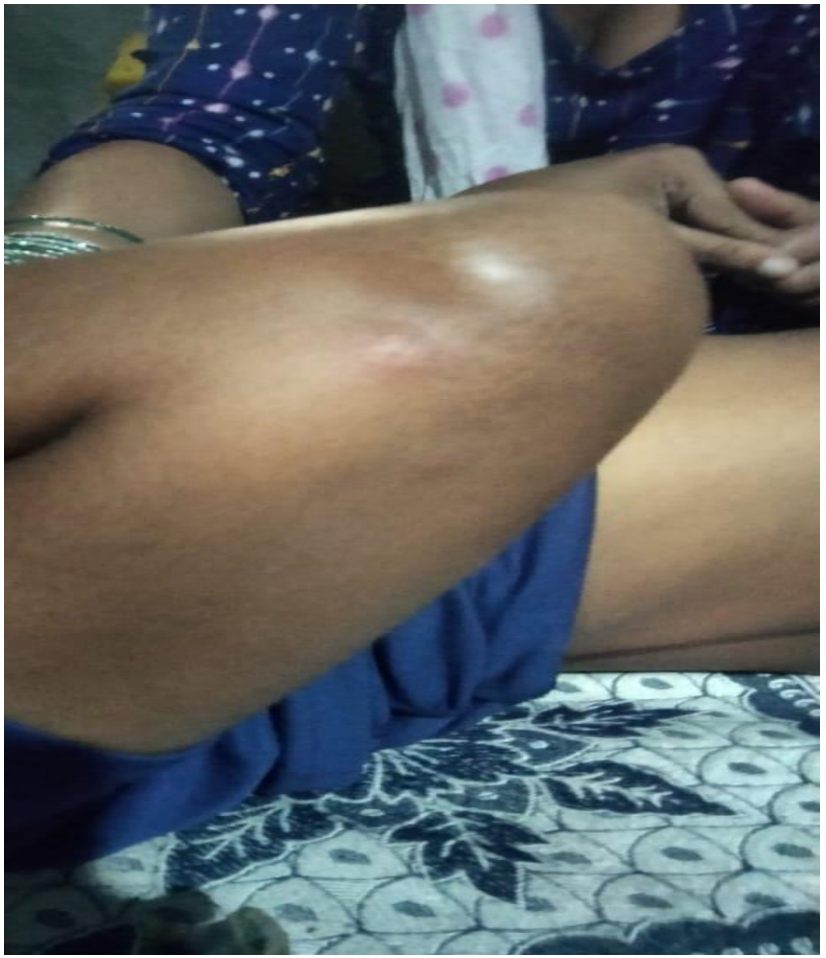
Skin lesion – Lower Arm(above elbow)





Skin lesion and Elbow Joint





Out side Investigation

Investigation:

- Hb: 11.8, TC: 11,900, DC: [P: 84, L: 12, E:2, M:2%], PC:2.40
P/S for MP : Negative,
- S Widal : Negative,
- Creatinine: 1.0, SGPT: 48, ESR (1: 90, 2:127),
- Urine(R/M): Pus cell: 2-3 cells,
- X- RAY Chest: normal,
- USG Abdomen: normal,
- USG Thyroid: normal,

Out side treatment started

Treatment:

- Tab Doxycycline 100mg 1BD,
- Tab Paracetamol 650mg sos

Ref. I.D. Specialist for further workup and treatment

Detail History Taken

- Resident – Santarampur, District- Mahisagar
- Profession – not working
- Caste – Multani(Muslim)
- No coughing, abdominal pain, diarrhea, throat pain, weight loss,
- No oral, Ear, Genital lesions
- No history of Visual Impairment
- No history of recent any drug exposure or vaccination
- Past history – No DM, TB.
- Family history – No DM, HT, TB, Autoimmune diseases

Physical Examination :

- Temperature – 100 F
- Pulse – 92/min
- BP – 112/76 mmHg
- R/S, CVS, P/A, CNS – Unremarkable
- No Anemia, No Icterus, No palpable lymphadenopathy
- **Skin lesion** - Multiple site skin lesions(Erythematous Nodules)
    - Bilateral and Symmetric,
    - Typically distributed on the upper extremities Arm and Forearm, Lower extremities thighs and above ankles.

Investigation

- LDH: **313**(125-220), Ferritin: **732.8**(21.81-274.66),
- TSH: 1.04(0.36-5.50),
- S.Ig E: **436**, (>11yrs-1.9-170)
- HIV/HBsAG: Negative,
- RA Factor: **26.4**(0-20), Anti CCP Antibody: 2(0-5)
- ANA BY IF: Negative,
- ACE Level – 45(12-68),
- Chikungunya PCR, IgM/IgG ; Negative
- Toxoplasma Ig G: 0.2(0-1.6), Ig M: 0.14(0-0.5),
- Blood culture (bactec aerobic plus): No growth.
- Stool (R/M): Pus cell: 2-3 cell, No Occult blood
- Stool for parasitic infection – No parasite

USG B/L Inguinal region:

- Bilateral multiple enlarged lymphnodes,
- Right side – 4 lymph node, large – 26mm-10mm. no calcification, colour mode shows significant vascularity.
- Left side – 2 lymph node, large – 25-10mm, no calcification, colour mode shows minimal vascularity.

Possibility of infective nature of lymph nodes

Advise:

- Skin biopsy from lesions.

Skin biopsy

Biopsy shows nodular granulomatous inflammation centered around neurovascular bundles of superficial and deep dermis. The granuloma consists of foamy macrophages and lymphocytes. Occasional neutrophils dot the granulomas accompanied by scant nuclear dust and fibrin. The dermoepidermal junction is spared by the granulomatous infiltrate.

Impression:

In view of clinical features these findings are consistent with erythema nodosum leprosum.

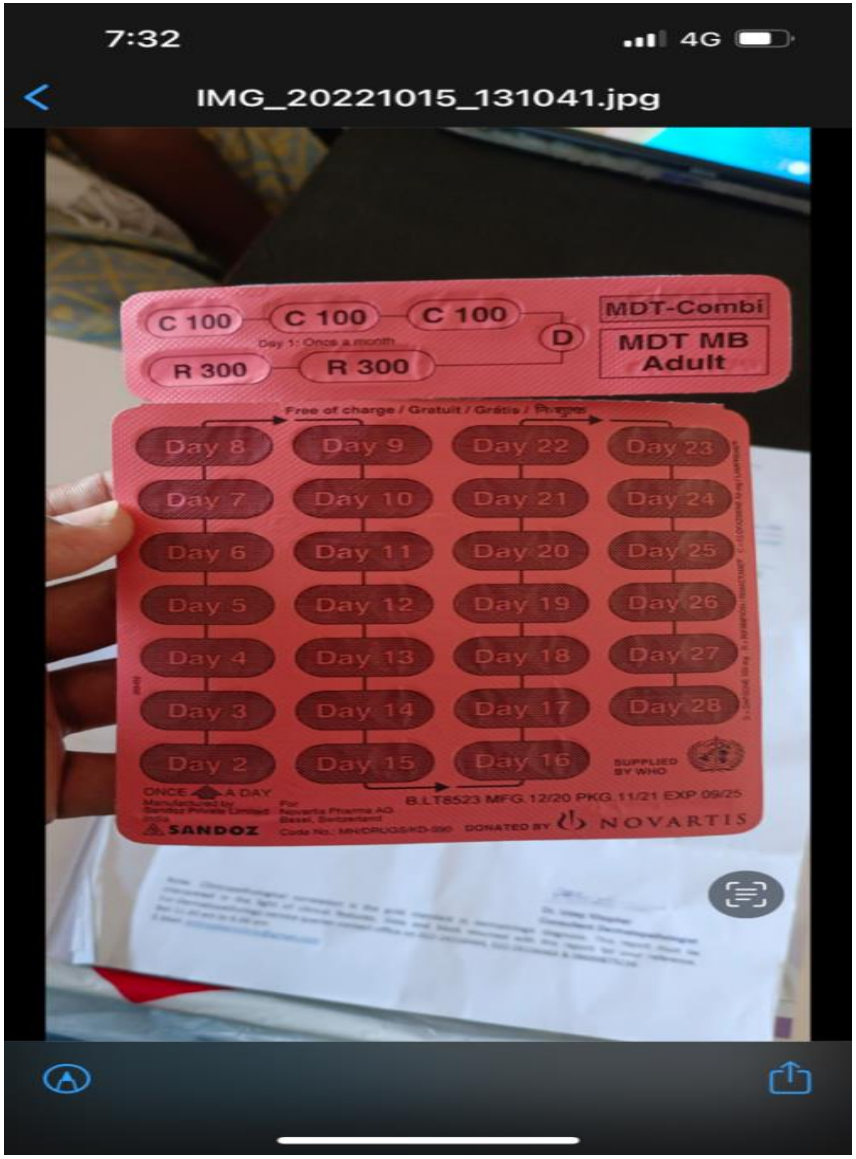
Treatment

- After leprosy diagnosed patient shifted to Civil hospital
- Treatment started – Multidrug Therapy(MDT)

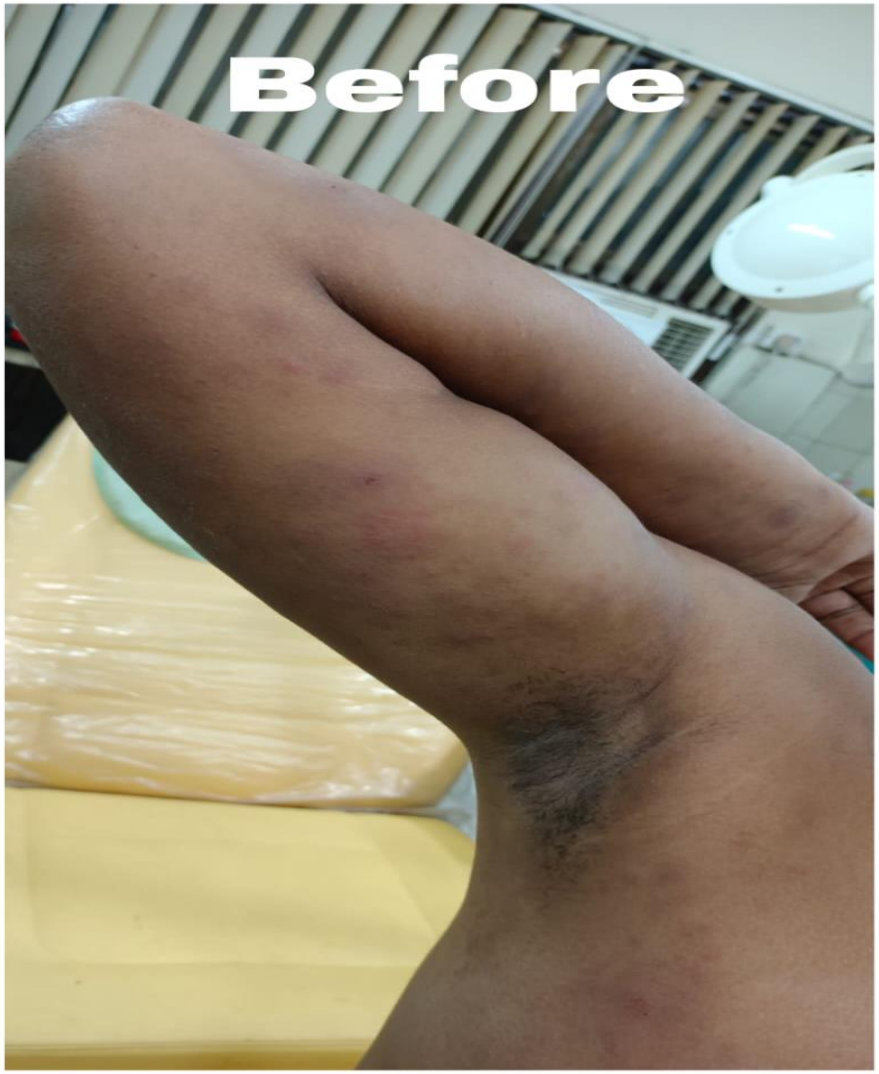
  - Dapsone, rifampicin, Clofazimine

  - Omnacortil – 20mg/day, Paracetamol

MDT(Multi Drug Therapy)



After 2 weeks of Therapy



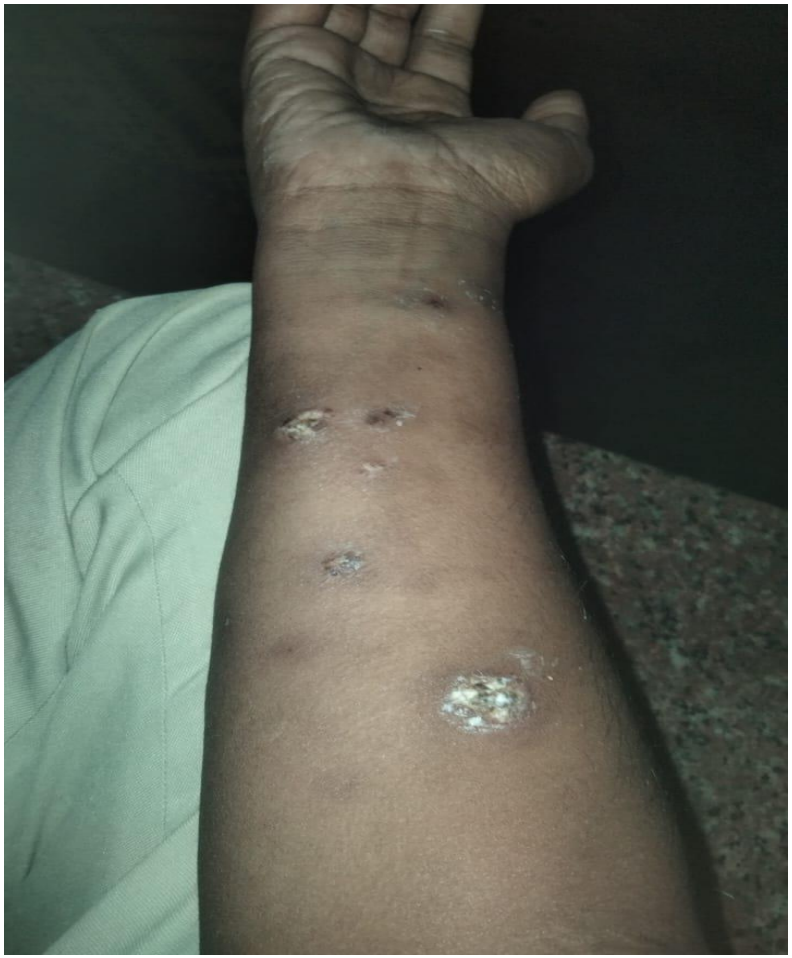
Who guidelines for treatment

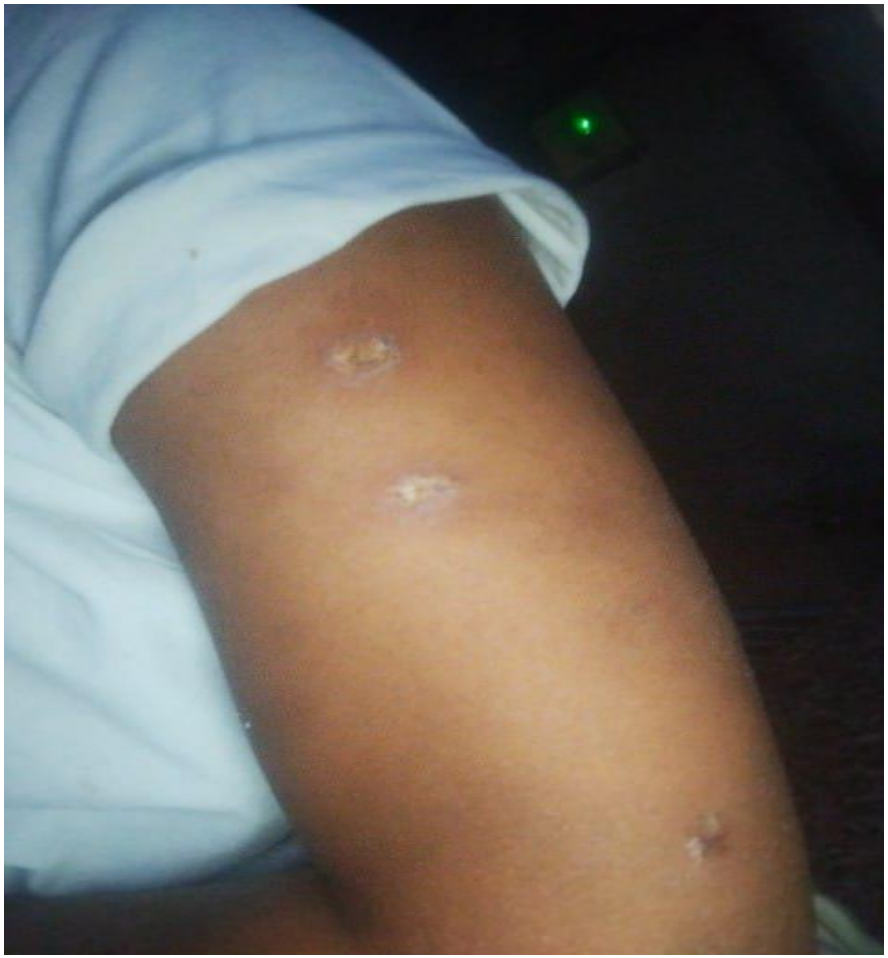
- MDT(Multidrug Treatment)- Dapsone, Rifampicin and Clofazimine
- Pauci-bacillary case – six months
- Multi-bacillary case – 12 months

Telephonic follow up taken

- Skin lesion again appear on forearm and arm after 3 weeks of ongoing therapy
- Treatment with MDT, Omnacortil(40mg/day), Amoxi – Clav, Diclofenec, Paracetamol and Serratiopeptidase
- If still not respond then plan to give Thelidomide.

Lesion after 3 weeks





Follow up

- Patient feels better after 2 weeks of new therapy.
- This patient needs atleast 12 month of therapy
- Retrograde came to know that in their Multani caste 50 active cases of leprosy in 7000 population right now

Causes of Erythema Nodosum

- **Common:**

  1) Idiopathic (up to 55 percent)

  2) Infections: Streptococcal pharyngitis (28 to 48%),
  Yersinia spp.(in Europe), mycoplasma, chlamydia,
  histoplasmosis, coccidioidomycosis, mybobacterial.

  3) Sarcoidosis (11 to 25%) with bilateral hilar adenopathy

  4) Drugs(3 to 10%) antibiotics (e.g. sulfonamides, amoxicillin),
  oral contraceptives

  5) Pregnancy (2 to 5%)

  6) Enteropathies (1 to 4%) Regional enteritis, ulcerative colitis.

- **Rare (less than 1%)**

  1) Infections:

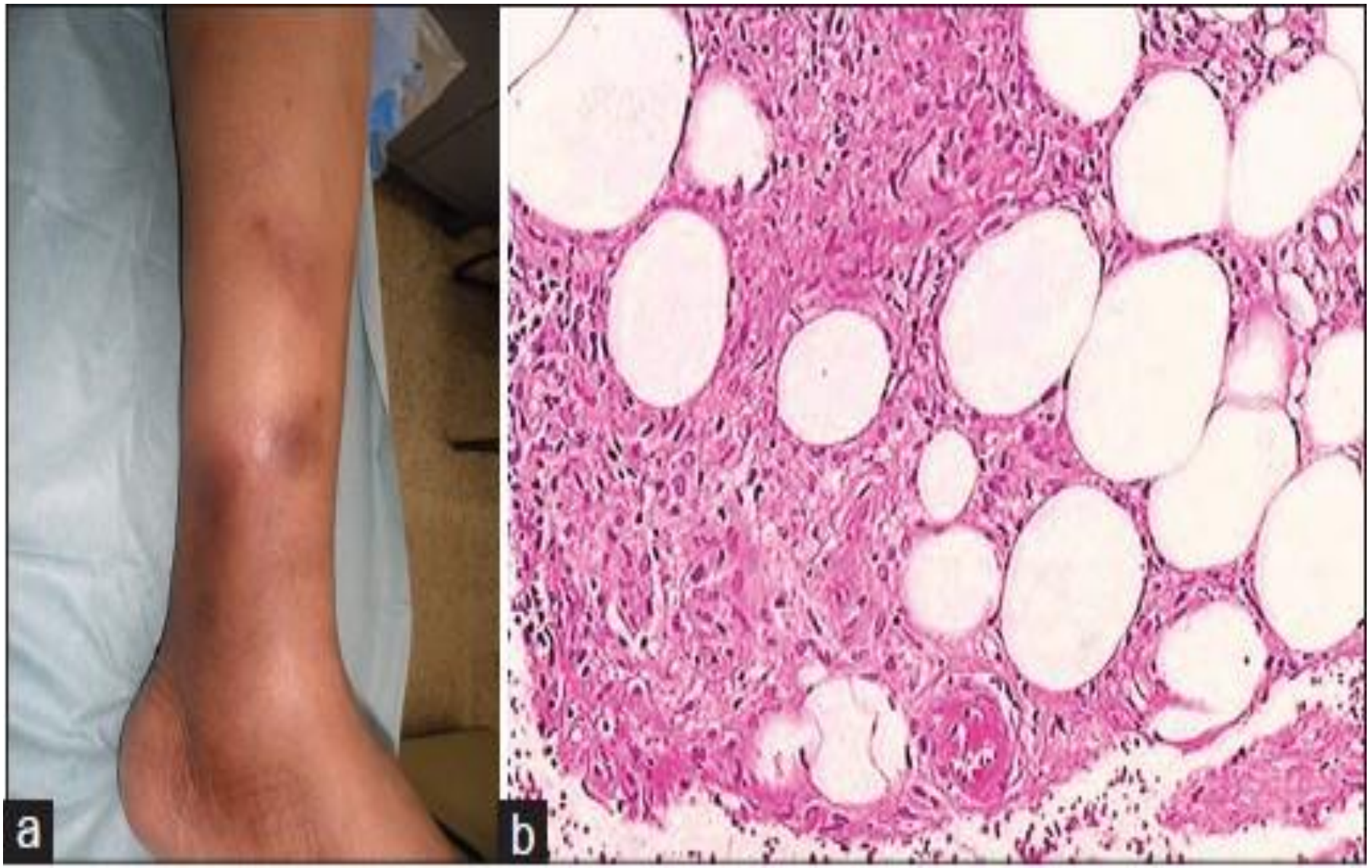
  viral: herpes simplex virus, Epstein Barr virus, hepatitis B & C virus, human immunodeficiency virus

  Bacterial: Campylobacter spp, rickettsiae, Salmonella spp, psittacosis, bartonella spp, syphilis

  Parasitic: amoebiasis, giardiasis

  Miscellaneous: lymphoma, other malignancies.

Histopathology of EN- Granulomatous lobular panniculitis with small vessel vasculitis



ENL- For all cases

Evaluate and treat triggering factors

ENL- all cases (MILD)

- Few erythematous painful nodules
- Systemic symptoms may be present (low grade fever and malaise)

Treatment:

- First line: non- steroidal anti- inflammatory agents
- Second line: first line agents associated with indomethacin, chloroquine, pentoxifyline, colchicine, clofazimine

ENL- for all cases (Moderate)

- Many erythematous painful nodules.
- Systemic symptoms may be present (fever and malaise)

- **Treatment:**

  1) Anti-inflammatory agents

  +

  2) Prednisone (20-60mg/day) + maintenance therapy

ENL- for all cases (severe)

- Disseminated lesions, sometimes polymorphic (nodule, bullae, ulcers)

  And/ Or

- Systemic symptoms (fever, malaise, arthritis, orchitis, neuritis) with or without functional impairment.

- **Treatment:**
- Hospitalization + Prednisone (1-2mg/kg) +Thalidomide (400mg/day)
- Improvement: gradual dosage decrease+ maintenance therapy
- If no response, consider alternative immunosupressive regiment (methotrexate, mycophenolate mofetil, cyclosporin, azathioprine), TNF (tumor necrosis factor)- alpha inhibitors.

Take Home Message

- Wide variations in clinical presentation of Leprosy in reaction
- Make histopathology an important tool for supporting clinical diagnosis
- Repeat skin biopsy if needed to look for bacterial index(BI) and better management