A PRESENTATION OF
PAPULONECROTIC
TUBERCULID AND
ERYTHEMA NODOSUM

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3 ½ year old male child brought with complaints of-
- Fever - 10 day
- Cough, cold - 7 days
- Swelling over the left side of the chest - 4 days
- Skin lesions - 4 days
- Difficulty in breathing - 3 days

Other important history
- A strong contact with tuberculosis
  father was diagnosed with tuberculosis
  paternal uncle diagnosed with tuberculosis
  cousin brother was on ATT
On examination

- Pallor ++
- Oral candidiasis +
- Oral ulcers +
- Tachypnoeic
- Warm tender swelling over the chest wall
- Multiple maculo-papular lesions present over the abdomen, back and extremities
- Child had grade 2 PEM
Maculo papular skin lesion on the arms and legs
SYSTEMIC EXAMINATION

- CVS- normal
- RS- B/L crepititions +
- P/A-soft, liver 1cm below RCM
- CNS- normal
INVESTIGATION REVEALED

- CBC-anemia
- Peripheral smear study- microscopic hypochromic anemia
- RFT- n
- LFT- n
- Chest x ray- basal consolidatory changes in the right
- Mantoux- neg
- RGJ- neg
- Retroviral screening – neg
- ASO-neg
- USG chest- consolidatory changes in the right lung
- USG abd- normal
- Blood c/s- Staph aureus
- Pus c/s – Staph aureus
TREATMENT

- Child was started on antibiotics
- Candid mouth paint for oral ulcers
- Supportive measures to improve general condition
- I&D was done for the chest wall abscess.
Dermatology opinion was sought for the skin lesions:

- ?papulo necrotic tuberculid
- ?erythema nodosum
- advised skin biopsy
- to start ATT
Skin biopsy report: Section shows epidermis with focal thinning. Mononuclear infiltrate around blood vessel in the dermis. Inflammatory cells (lymphocytes and neutrophils) seen in the junction between dermis and subcutis and around the lobules.

Picture consistent with erythema nodosum
- Child was started on CAT-1 ATT
- Respiratory symptoms improved
- Skin lesions started healing soon as ATT was started
DISCUSSION-ERYTHEMA NODOSUM

- Panniculitis usually affecting the shins, may spread to thigh and arms.
- Immunological reaction with immune complex deposition in the dermal vessels.
- EN occurs mostly in adults. Female:male::6:1
- Sex incidence before puberty is equal
- Associated with arthralgia in 50% of patients
CAUSES OF ERYTHEMA NODOSUM - COMMON

- Infections
  - Streptococcal pharyngitis
  - Tuberculosis
  - Coccidioidomycosis
  - Yersinia
  - Histoplasmosis
- Sarcoidosis
- Drugs
  - Sulfa drugs
  - Oral contraceptives
  - Amoxicillin
- Inflammatory bowel disease
- Behçet disease
- Pregnancy (most often during the first half of pregnancy)
Causes of Erythema Nodosum – Less Common

- Infections
  - Campylobacter
  - Rickettsiae
  - Salmonella
  - Psittacosis
  - Syphilis
  - Amoebiasis, Giardiasis
  - Herpes simplex virus
  - Mycoplasma, Epstein-Barr virus
  - Hepatitis B and C viruses
  - Human immunodeficiency virus
  - Toxoplasmosis, Cat scratch disease (Bartonella)

- Malignancies
  - Leukemia
  - Hodgkin’s disease
Discussion – cutaneous tuberculosis

Cutaneous manifestation of TB

True cutaneous TB

Tuberculous chancre
Milary TB
Lupus vulgaris
Scrofuloderma
TB verrucosa cutis
Tuberculous abcess
Orificial TB

tuberculids

Lichen scrofuloderma
PNT

Erythema nodosum
Erythema induratum
(Facultative tuberculids)

Kao et al. journal of medical case reports 2010 4:124
Hypersensitivity phenomenon to tubercular protein
Due to high circulating levels of immune complexes
Less than 1% of the infected patients develop hypersensitivity*
Usually associated with primary tuberculosis
May be the 1st sign of tuberculosis
Manifests at 3-8 wk of infection, the same time when TST becomes positive
Tuberculi bacilli is not found in the lesion

Vashisht P et al. Dept of dermatology, MAMC, Delhi
studied 103 pts of cutaneous TB
- scrofuloderma-36.9%
- lichen scrofulosorum-33%
- lupus vulgaris-21.3%
- TB verrucosa cutis-3.9%
- PNT-3.9%
- EN-2.9%
- Studied 335 pts with TB
- 10 pts presented with EN-2.9%

Social Hygiene service (Department of Dermatology) Hong Kong
- Studied 147 pts with cutaneous TB
- Lupus vulgaris was found in majority
- PNT-3%
David et al reported 2 cases in which EN was the only manifestation of tuberculosis

On further investigation both the cases were TST +ve and chest X ray was suggestive of Tuberculosis

Erythema nodosum can be the sole manifestation of TB.
**TAKE HOME MESSAGE**

- Tuberculosis is a very common disease often presenting in an uncommon form.
- Tuberculosis may be a common cause of erythema nodosum but erythema nodosum is an uncommon presentation of tuberculosis.
- Knowledge of cutaneous tuberculosis is important because of-
  - Increase in the incidence of HIV.
  - Resurgence of cutaneous tuberculosis due to multidrug resistant strains of Mycobacterium tuberculosis.
Thank you