

**Contact dermatitis:** cell mediated inflammation due to contact with substance

### Symptoms

- Red rash or bumps
- Itching, which may be severe
- Dry, cracked, scaly skin (chronic)
- Blisters, draining fluid and crusting (severe)
- Swelling, burning or tenderness

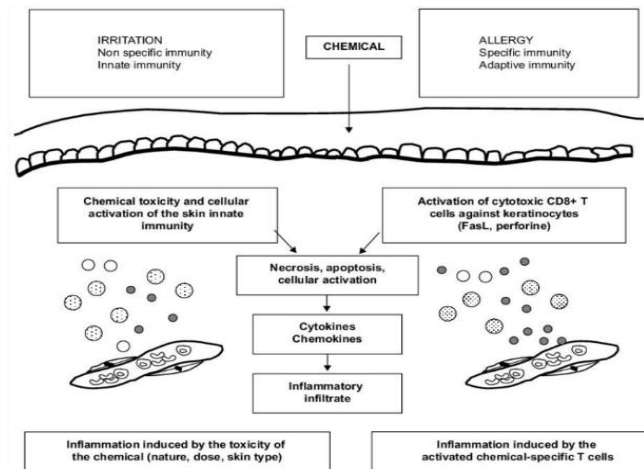
### Type IV hypersensitivity: delayed

- T-cell mediated inflammatory conditions
  - Also implicated in some autoimmune diseases (type IV = cell mediated; type II = antibody mediated)
- Soluble protein antigens are presented by **macrophages or dendritic cells to TH1 helper T-cells**
  - TH1 cells secrete cytokines to recruit mononuclear cells and form granulomas
- At the epidermis, the Langerhans cells act as the antigen presenting cells
  - Small molecules bind to normal cellular proteins following skin contact, and present as modified epidermal antigens to elicit an immune reaction

### Types

- Allergic stimulus via **HYPERSENSITIVITY IV**
  - CD 4+ T-cell activation
  - Spread to surrounding tissue
  - Includes drug-induced reactions
  - 2-3 day delay
    - Poison oak, poison ivy
- Chemical irritations → necrosis in area of exposure
  - Phenols, organic solvents, rubbing alcohol
  - Bleach
  - Soaps, deodorants and cosmetics

### Pathophysiology



**Seborrheic dermatitis:** common chronic inflammatory dermatitis

### Epidemiology

- All ages
  - Infants – self-limited in first 3 months of life
  - Adults – chronic
- Males > females
- In regions with many sebaceous glands
  - Face, scalp, behind ears, upper trunk, skin folds
- Hereditary
- Malassezia (yeast infection) → release lipid metabolites that inflame/ irritate skin (scalp)

### Risk factors

- Illness
- Stress
- Fatigue
- Reduced general health
- Low humidity
- Cold temperatures

### Drug triggers

- Cimetidine
- Lithium
- Methyldopa
- Buspirone
- Ethionamide
- Haloperidol
- Phenothiazines

### S/S

- Lesions: pink-red, yellow-red-brown, superficial, itchy patches/plaques, flaky, occasionally greasy scale
- Can attach to hair shaft
- Dandruff common scalp