

Dermatitis (Eczema) :-

Dermatitis, (**eczema**), is inflammation of the skin characterized by itchy, erythematous, vesicular, and crusting patches.. The cause is unclear. One possibility is a dysfunctional between the immune system and skin. **dermatitis is not life-threatening** .

Classification :- Classification depending on source of **triggering factors** it classified to:

A. Exogenous eczemas – are related to clearly defined external triggering factors , although inherited tendencies can also play a part , this group include :

1. **Irritant contact dermatitis (ICD)** .
2. **Allergic contact dermatitis (ACD)** .
3. **Photo-contact dermatitis** .
5. **Infective dermatitis** .
6. **Dermatophytide** .
7. **Post-traumatic eczema** .

B. Endogenous eczema – it implies that the condition is not a result of exogenous or external environmental factors , i.e. is mediated by processes originating within the body , include :

1. **Atopic dermatitis (AD)** .
2. **Hand eczema**.
3. **Discoid eczema** .
4. **Exudative discoid and lichenoid dermatitis** .
5. **Chronic superficial scaly dermatitis** .

Common types of Eczema:

- **Atopic dermatitis** is an allergic disease believed to have a hereditary component, and often runs in families whose members also have asthma. Itchy rash is particularly on head and scalp, neck, inside of elbows, behind knees, and buttocks.
- **Contact dermatitis** is of two types - -
 - 1-**Allergic** (resulting from a delayed reaction to an allergen, such as poison ivy.
 - 2- **Irritant** (resulting from direct reaction to a detergent, such as sodium lauryl sulfate). It is usually more painful than itchy.
- **Xerotic eczema** (Craquelatum, winter itch, pruritus hiemalis) is dry skin that turns into eczema. It worsens in dry winter weather, limbs and trunk are most often affected. It is very common among the older population.
- **Seborrheic dermatitis** ("cradle cap" in infants) it is a form of eczema that is closely related to dandruff. In newborns it causes a thick, yellow, crusty scalp rash .

Less common types :-

1. (vesicular palmoplantar dermatitis, housewife's eczema) only occurs on palms, soles, and sides of fingers and toes. it worsens in warm weather.
2. Discoid eczema (exudative , microbial) is characterized by round spots of oozing or dry rash, with clear boundaries, often on lower legs. It is usually worse in winter.
3. **Dermatitis herpetiformis** :causes intensely itchy and typically symmetrical rash on arms, thighs, knees, and back. It is directly related to celiac disease.
4. **Neurodermatitis** (localized scratch dermatitis) is an itchy area of thickened, pigmented eczema patch that results from habitual rubbing and scratching.
5. Autoeczematization (autosensitization) is an eczematous reaction to an infection with parasites, fungi, bacteria, or viruses.

Signs and symptoms

Redness of the skin, Swelling, Itching and skin lesions. and scarring.

Causes :- The cause is a combination of genetic and environmental factors.

Environmental :exposure to bacteria and other immune system modulators is important during development, and increases risk for asthma and allergy.

Genetic: A number of genes have been associated with eczema, there are three new genetic variants associated with eczema: **OVOL1, ACTL9**

Pathogenesis :- It involves the interaction between three things :

- a. Triggering factor .
- b. Keratinocytes .
- c. T-lymphocytes .

Diagnosis of eczema:

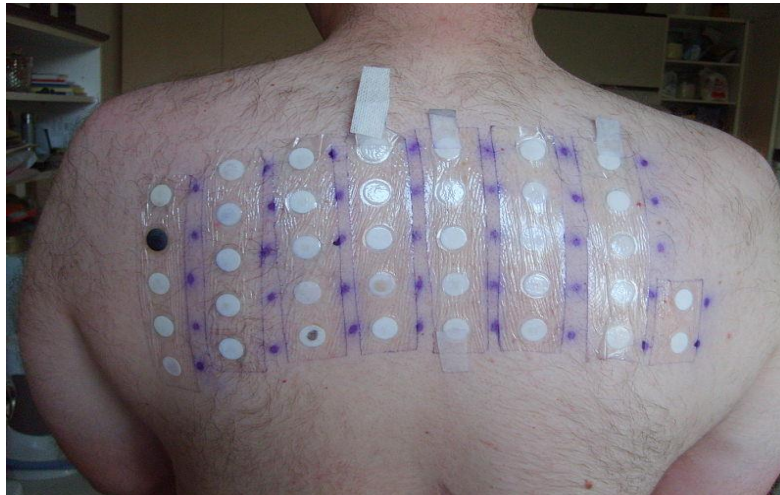
Diagnosis based on the history and physical examination. skin biopsy may be useful. Patch tests are used in the diagnosis of allergic contact dermatitis.

A patch test is a method used to determine whether a specific substance causes allergic inflammation of a patient's skin. Patch testing helps identify which substances may be causing a delayed-type allergic reaction in a patient.

Mechanism

A patch test relies on type IV hypersensitivity reaction. When skin is exposed to an allergen, the antigen presenting cells (APCs) – also known as Langerhans cell or Dermal Dendritic Cell. The APC moves down the lymphatic system to a lymph node, where it presents this part of the allergen to CD4+ T-cell, or T-helper cell. The T-cell sends out more of itself to the skin, at the site of antigen exposure. When the skin is again exposed to the antigen, the memory T-cells in the skin recognize the

allergen and produce cytokines. This leading to skin inflammation, itching. In general, it takes 2–4 days for a response in patch testing to develop.



Allergic contact dermatitis (ACD) it is a form of **delayed time allergic response** caused by contact with an immune stimulating substance; the other type being irritant contact dermatitis (ICD). The mechanisms by which these reactions occur are complex. Their immunology centres on the interaction of immunoregulatory cytokines and discrete subpopulations of T lymphocytes. **Memory Response:** Memory response, usually takes 2 to 3 days after coming in contact with the allergen, and can persist for 2 to 4 weeks.

Atopic dermatitis (AD), known as **atopic eczema**, is a type of inflammation of the skin (dermatitis). It results in itchy, red, swollen, and cracked skin. Many people with AD have a family history of atopy. **Atopy is an immediate-onset allergic reaction (type 1 hypersensitivity reaction) that manifests as asthma, food allergies, AD or hay fever.** Clear fluid may come from the affected areas, which often thicken over time. It typically starts in childhood. In children under one year of age much of the body may be affected. As they get older the back of the knees and front of the elbows are the most common. In adults the hands and feet are most affected. Scratching worsens symptoms and affected people have an increased risk of skin infections. **It is more common in younger children.**

