

Module No. 7

Natural Allergen

Allergen are exciting agents of allergy i.e. substances capable of sensitizing the body in such a way that an unusual response occurs, in hypersensitive persons. It may be defined as specific immunological reaction to immunogen a normally harmless substance that is allergen.

Classification of Allergens-

- 1 Inhalant allergy: Asthma, Hay fever
- 2 Ingestant allergy: food allergy
- 3 Injection- Sting by insect
- 4 Contactant- Dermatitis
- 5 Infectant allergen: due to parasite
- 6 Infestant allergen- Metabolic waste of m/o

1 Inhalants - Cause allergy include following:-

Pollens

Mold Spores

House dust and

dandruff allergens

-Eg. Animal dander, cat, perfume, guinea pig, chicken, human hair

Anemophilous

Entomophilous

- wind pollinated

- Insect pollinated

- small (15-45 μ India)

- large in size (200 μ India)

- light, non-adhesive

- scented with coloured flowers

- eg. trees (oak, walnut)

- such as clover, holyhock,

grasses (bermuda)

honeysuckle and rose

grass (grass) and

weed (ragweed)

Mold Spores - mostly cause Seasonal rhinitis or non-seasonal hay fever

- May also caused by eating certain food such as cheese processed with fungi, occasionally mushrooms, dried fruits, soya, yeast, sauce, vinegar.
- Most common mold genera are - *Alternaria*, *Aspergillus*, *Microsporum*, *Penicillium murex*, *Rhizopus*, *Cladosporium* etc.

2 Ingestant - E.g. Milk, egg, tree nut, fish, shellfish, orange juice, cod liver oil.

Diagnosis test - Skin prick testing, blood tests by Radio Allergy Sorbent test, endoscopy, colonoscopy, biopsy.

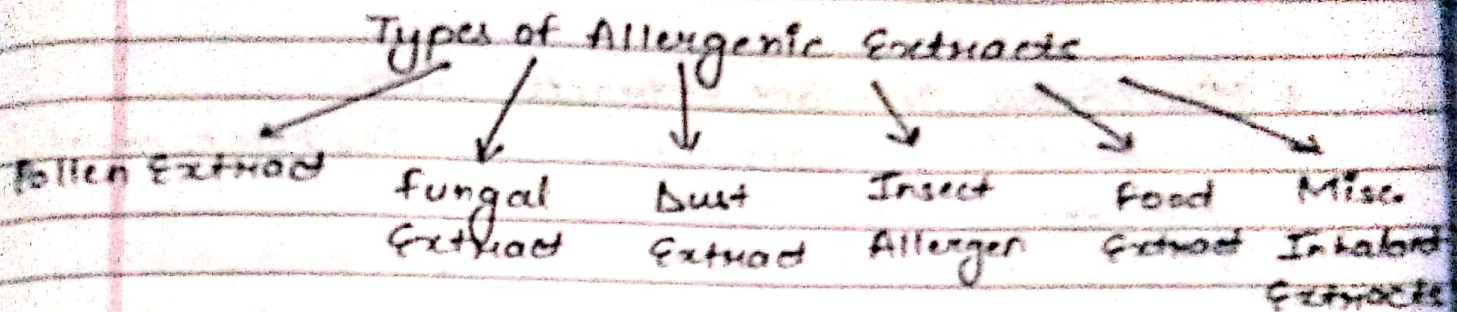
3 Injectant - E.g. Bees, hornets, wasps.

4 Contactant - E.g. *Rhus graveolens*, *Artemisia*, ornamental dumb cane, buck wheat, butter cups, cat's paw leaves, ginkgo leaves, lantana, marigold.

5 Infectant - Metabolic product of bacteria, protozoa, moulds, helminths.

all Allergenic Extracts

These are the substances used for diagnosis and treatment of allergic diseases and are concentrated solutions or suspension of allergen.



1 Pollen Extracts - E.g. are:-

Alfafa	Almond	Apple	Acacia	Barley
Ornary grass	Cherry	Corn	Burdock	Eucalyptus
Ull	Hazelnut	Hemp	Elgweed	Palm
Sunflower	Tulip	Coco	Rye grass	

2 Fungal Extract - E.g. are

Aspergillus	Trichoderma	Penicillium
Cryptococcus	Neurospora	Trichosporon
Mucor	Candida	Rhizopus

3 Dust Extract: Dust comprises various ingredients of innumerable origin like food, fungi, hairs, feathers, cleaning agents.

4 Insect Allergen Extracts - Insect Includes - Honey bee,

Blue ant.	Red ant	Black ant	Spider
Butter fly	House fly	Wasp	House bee
Cockroach	Beetle	Cricket	Wasp
Mite	Tick	Scorpion	

E.g. are:-

Apricot	Banana	Berries	low milk
Buckwheat	Yeast	fig	cucumbers
Lentil	Egg white	Chocolate	Honey
Radish	Turnip	Spinach	Beef Liver

6 Miscellaneous Inhalant Extracts - E.g.

- Various hairs like those from human, horse, camel, goat, dog, cat, rabbit, wool.
- Bird feathers like from chicken, pigeon, turkey.
- Algae, gum, acacia, cotton lintens, fish glue, jute, cycopodium, pyrethrum, silk.

Preparation of Allergenic Extracts

Involves various stage in preparation:-

- a) grinding
- b) defatting
- c) Extraction
- d) standardization

Standards are expressed in the form of weight/volume pollen units, protein-nitrogen units, total nitrogen units.

Natural Source of furocoumarins

Drug	Biological Source	Chemical constituent	Use
1] Bergamot oil	obtained by cold expression of peels of unripe fruits of Citrus bergamia family Rutaceae.	Main constituents are d-limonene, dipentene, l-linalyl acetate, l-linalool, nerol, geranyl acetate, 5% furocoumarins (bergapten).	- flavoring agent in aromatherapy and perfumery. - furocoumarins (ps) (bergapten) may cause photosensitization.
2] Ammi majus / Ammi Visnaga (Khellin)	obtained from roots and flower of Ammi majus obtained from dried ripe fruit of Ammi Visnaga.	Xanthotoxin, furanocoumarins are xanthoxalen, aminoxilin, fragilin, majusin. → khellin and khelloside	- Xanthotoxin very dose 3 time a day given orally on applied externally - Unimant by exposure of affected area to sunlight
3] Babchi (Psoralea)	dried ripe fruit of Psoralea corymbalis family Leguminosae.	Fixed oil (10-12%), essential oil (0.02-0.5%), flavanoids and furocoumarins, psoralen and 4% isomer isopsoralen.	- Used in ttt of leucoderma
4] Heracleum candicans (wall)	obtained from fresh roots of H. candicans family Apocynaceae.	Geraniadiene, 1,8-dimethyl- α -pinene, cis-sabinene, linalool, caryophyllene oxide	- skin disorders, itching, tonic, colic, antipyretic, spices, flavoring.
5] Kochia scoparia	obtained from Bassia scoparia family Amaranthaceae		- eczema, scabies, pruritus, sores, diabetes
6] Lady thumb / water smartweed	obtained from annual plant Persicaria maculosa family Polygonaceae	- Hemicellulose, 7.1% Lignin 3.4%, pectic matter, 3.8%, fatty and waxy matter	- stomach pain / poison ivy - Rubbed on horses as an insect repellent