POISONOUS PLANTS OF TURKEY
WEEK 5

GENERAL INFORMATION

REASONS OF PLANT POISONING IN TURKEY:

1-Accidental ingestion of a poisonous plant (usually in children)

2- Misuse of hallucinogenic or narcotic plants

3-Taking over the required amount from a plant used for health

4-Using of a poisonous plant by mistake, instead of medicinal plant

5-Accidental use of a poisonous plant, instead of a plant used as food (poisonous mushrooms, wild carrot-hemlock)

6-Without being known, eating a part of a plant (fruits, roots, tubers, etc.) except the part that is widely used

7- Poisoning in some people who are sensitive to the small amount of a toxic component contained in an edible plant (favism with *Vicia faba*)

8-Eating infected plant by mycotoxins (*Aspergillus flavus* infected nuts, such as peanuts)

9-Use of a poisonous plant for suicide

10-Use of a poisonous plant for abortion

11-Concentration of some toxic substances in plant structure - by the soil content that plant grows on or environmental pollution (poisonings with plants grown in selenium soils).

Diagnosis of Poisonous and Non-Toxic / Edible Apiaceae Plants with the Help of Their Morphology

Conium maculatum (Baldıran)

-Purple spots on the stem
-Bad smell
-Petiole widens as a sheath at the base and round at the top

GENERAL TOXICOLOGICAL INFORMATION *

Toxicology is the science of the effects of chemical substances, biological and physical agents with undesirable, harmful and negative consequences on living organisms.

* General Toxicology notes at www.eczfak.anadolu.edu.tr were used. (Date of issue: 08/10/2015)

PURPOSE OF TOXICOLOGY *

*To determine the toxic effects of various factors,

*To conduct scientific research in order to increase the knowledge on toxic effects,

*To evaluate the toxic effects of environmental pollution,

* To prevent and control the harmful effects of toxic substances.

All foreign substances including drugs which are not necessary for the normal metabolism of the organism, are called XENOBIOTIC.

Toxicology deals with the effects of xenobiotics.

However substances that are endogenous (such as hormones, some amino acids) or exogenous (such as vitamins, food salt) required for the body, might be toxic when taken in high doses and therefore enter into the research area of toxicology also.

The negative effects of all xenobiotics on biological systems are called TOXIC EFFECTS.

The toxic effect of xenobiotics is expressed as toxicity.

FACTORS AFFECTING THE TOXICITY

-Route of exposure

-The duration and frequency of exposure

-Dose

1. Way of Exposure

-Substances **enter** the **body** by these routes: **oral, inhalation, dermal or parenteral**

-The toxic substances create the fastest effect and response when they are taken intravenously.

-Beginning from the most effective one, the order of the exposure routes:
intravenous> inhalation> intraperitoneal> subcutaneous> intramuscular> intradermal> oral> dermal.

2. THE DURATION AND FREQUENCY OF EXPOSURE

According to the **duration and frequency** of exposure to toxic substances; four **forms** of poisoning are recognized:

- **Acute poisoning**
- **Subacute poisoning**
- **Subchronic poisoning**
- **Chronic poisoning**

TREATMENT OF POISONING
(At Health Institution)

-The source of the poison is removed
-Absorption of the poison is minimized
-Supportive therapy (Oxygen, respiratory support, etc.)
-Specific treatment (Antivenin, antitoxin, chelating agent)