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REVIEW ON TOXIC PLANTS

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ABSTRACT

Toxic plants are plants which after touching or ingested in sufficient quantity it produce harmful or toxic effects. The main aim of toxin in toxic plant to defence against herbivores. The toxins are secreted by toxic plant, few plants are injurious to humans. This review further help in to know about Scientific Name, Poisonous content, toxic part and treatment of Toxic plants.

KEYWORDS: Toxin, Poisonous Parts, Toxic Plants, Alkaloids, Flowers.

INTRODUCTION

Toxic plants are plants that have in their constitution chemical compounds or active principles, which through contact, inhalation or ingestion, are capable of causing injury, disease and even death in humans and animals. These compounds may be alkaloids, glycosides, saponins. oxalates, tannins, among others.[1] These all are secondary metabolites of plants and sometime they produce toxic effect to human. Toxins play Role in protecting plants against predators. The toxicity of plant depends upon different chemical constituents in plants. Mostly toxic plants produce irritation, Allergies, vomiting, diarrhoea. But some dangerous plant depresses Central Nervous System which leads to cardiac failure which Causes death purpose of this review to get knowledge about toxic plants.

A) Atropa Belladonna

1) **Scientific Name:** Atropa belladonna
2) **common name:** deadly nightshade
3) **Family:** solanaceae
4) **poisonous part :** The roots of the plants are generally most toxic part

5) poisonous contents : Atropine, scopolamine, hyoscyamine

6) Symptoms

a) Hallucinations[2]

b) fever

c) Fast Heartbeat

d) dry mouth,

7) Treatment

a) physostigmine (2mg IV)

b) Diazepam Anticonsulents

Figure No.1: Berries of Atropa belladonna.

Figure No.2: Flowers of Atropa belladonna.

B) Datura stramonium

1) Scientific Name : Datura stramonium

2) Common Name : Thorn apple, jimson weed[3], devils snare

3) Family: Solanaceae

4) Poisonous part : Entire plant especially seeds

5) Poisonous content: Tropane alkaloids like hyoscyamine, scopolamine and Atropine[3]

6) Symptoms

7) a) delirium

b) hallucination,

c) hyperthermia

d) tachycardia

8) Treatment

a) Emetics

b) pilocarpine

c) Barbiturates to control delirium

d) physostigmine (0.1 mg IV)

Figure No. 3: Datura Plant with flower.

C) White Snakeroot

1) **Scientific Name:** Ageratina Altissima
2) **Common name:** Richweed, white Sanicle
3) **Family:** Asteraceae
4) **Poisonous Parts:** leaves and steam of white snakeroot plant is extremely poisonous .
5) **Poisonous content:** It contain the toxin tremetol

6) **Symptoms**

a) Milk sickness[4]
b) Vomiting
c) intestinal pain.

7) **Treatment**

Administration of sodium lactate, glucose, hypotonic Ringer's solution

Figure No. 4: white snakeroot flower.

D) Castor Bean.

1) **Scientific name:** Ricinus communis.
2) **Common Name :** Castor Bean or Castor oil.
3) **Family :** Euphorbiaceae.
4) **Poisonous part :** The Seeds is only toxic if the outer shell is broken or chew.
5) **Poisonous Content :** It Contains toxic protein Ricin.

6) Symptoms

The major symptoms of Ricin poisoning depend on the route of exposure and dose receive although many organs may be affected in severe Cases. Initial Symptoms of Ricin poisoning by inhalation occur within 8hr. Of exposure.[5]

7) Treatment

a) Dopamine

b) Activated charcoal[6]

Figure No.5: Castor Bean Plant.

E) Rosary Pea

1) Scientific Name : Abrus Precatorius

2) Common Name : Jequirity bean or rosary pea

3) Family : Fabaceae

4) Poisonous plant : Seeds of plant

5) Poisonous Content: The toxicity of the plant was found to be due to presence of lectin poison called abrin[7] also known as toxalbumin

6) Symptoms

a) Vomiting

b) loose Stools

c) pain abdomen

d) sezures[8]

7) Treatment

a) Gastric lavage

b) Activated charcoal

c) Injection of Antiabrin

Figure No.6: plant of Abrus Precatorius with seeds.

F) Oleander

1) Scientific Name : Nerium Oleander

2) Common name : Nerium, Indian oleander or kaner

3) Family : Apocynaceae

4) Poisonous part: All part poisons are found in all parts

5) Poisonous content

a) Cardiac glycosides

b) Saponins

c) digitoxigenin

d) oleandrin

e) neroside

6) Symptoms

a) Nausea

b) Vomiting

c) weakness

d) fatigue

7) Treatment

a) Ipecacuanha

b) Activated charcoal[9]

Figure No.7: Yellow Oleander.

Figure No.8: White Oleander.

Figure No.9: Red Oleander.

G) Calotropis Gigantea

1) **Scientific Name :** Calotropis gigantea
2) **Common name :** Giant milkweed, akdo, crown flower, shallow wort and madar[10]
3) **Family :** Apocynaceae

4) **Poisonous part**

a) Bark
b) stem
c) leaves

5) **Poisonous Content**

a) Calotoxin
b) Uscharin
c) Calactin
d) calotropin.

6) **Symptoms**

a) Burning pain in throat of stomach
b) Salivation
c) Vomiting

d) Dilated pupils

7) Treatment

a) Demulcents

b) Symptomatic treatment.

Figure No.9: Calotropis Gigantea.

H) Aconitum Ferox

1) Scientific Name : Aconitum Ferox Aconite, Vatsanabha,

2) Common name : Indian

3) Family: Ranunculaceae

4) Poisonous part: All pants of plant one poisonous especially Roots.

5) Poisonous content

a) Pseudaconitine

b) Bikhaconitine

c) Chasmaconitine

d) Indaconitine etc.

6) Symptoms

a) Hypertension[11]

b) Sinus bradycardia

c) Diarrhoea

d) Vomiting[12]

7) Treatment

Mahashankha Vati in which there are eight ingredients and Vatsanabha Althoug the recommended dose of aconite is only 15 mg, our patient had consumed 70 mg of Vatsanabha (A. feroxWall.) by ingesting two tablets of Mahashankha Vati.[11]

Figure No.9: Aconitum ferox plant.

CONCLUSION

From the above review study, it is easy and clear information about some toxic plants and its toxin. It also help in knowing about symptoms, toxic content, toxic parts of plants and treatment be taken to prevent the poisoning.

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