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Poisons Plants

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Abstract: ***India has rich and varied flora just like its culture. Plants are so amazing and beneficial for human being in every aspect. without plants life is not possible on earth. Plant and flowers are also used for decoration of home as ornamental, some plants are poisonous in nature. Beautiful flowers and plants may have toxic properties. Inhabitant of rural area dependent on their forms and garden for foods may have poison. Many species of toxic plants have been reported from different plant families. Mostly the poisonous parts of toxic plants have been reported to be seeds, root, root bark, fruits, stem, stem bark, tubers, bulbs and sometimes whole plant. Poisonous nature of plant may be due to the presents of Alkaloids, Glycosides, and Mineral, Oxalate, Photosensitizing compound, toxic polypeptide or amine.***
Keywords: Poisonous plants, Toxic Chemicals, Toxins, Medicinal uses.

I. INTRODUCTION

The world of floral diversity is amazing. Plants are so amazing and beneficial for human being in every aspect. Without plants life is not possible on earth. Plant and flowers are also used for decoration of home as ornamental, some plants are poisonous in nature. Beautiful flowers and plants may have toxic properties. All types of native and introduced plants can be poisonous including ferns, herbaceous plants, woody shrubs, and trees. Lots of plants are poisonous or capable of causing highly allergic reactions. Symptoms of poisoning from plants can include, vomiting, stomach cramps, irregular heartbeat, burning to the mouth, lips or tongue, convulsions. Among these effects are allergic reactions, irritations, skin rashes or dermatitis, skin photosensitization, and internal poisonings.(1)

II. CLASSIFICATION OF THE POISONOUS PLANTS

A. Classification of the Poisonous Plants on the basis of Chemical Constituents

1) Alkaloids
2) Glycosides
3) Minerals
4) Oxalates
5) Photosensitizing Compounds
6) Phytotoxins (Toxalbumins
7) Polypeptides and Amines
8) Resins

B. Classification of the Poisonous Plants on the basis of their effect on body

1) Plants that are irritant
2) Cardiotoxic Plants
3) Neurotoxic Plants
4) Cerebral toxic Plants
5) Miscellaneous Poisonous Plants(2)

III. OBSERVATION

This paper listed the poisonous plants which are found in India. The poisonous plants are alphabetically Arranged along with their botanical name, common name, family, toxins and alkaloids, poisonous parts and their toxic effects have been summarized.

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Table:1 plant's part and medical activities

Plant part used	Medicinal activity
leaves	Intestinal stimulators and uterine musculatoe. hypotensive, arborescent, skin diseases, pulmonary tuberculosis, syphilis and liver diseases.
Sap	Antiseptic, blinding agents for various powders.
Gum	Tooth pastes

1) Arbus Precarious:

Family: Fabaceae.

Arbus precarious is for the most part called as jequirity, Gunji, crabs' eye, rosary pea, precatory pea or bean, Indian Licorice.

Compound constituents:

Leaf: Abrine, Arbus lactone A, B, C, D Inositol and so on Seed: Abrine, abrin A, B C, 1,2,3, arbus agglutinin, saponin, Flavoniods, abreaction, lectin, campestanol and so on Root: Abrol, abrasine, precasine, precol etc.

Toxicity: Abrin harming can be clarified by abrin prompted Endothelial cell harm, which causes an expansion in slender Porousness with resulting liquid and protein spillage tissue.

Traditional uses: Anti fertility. antibacterial. Antitubercular, anti-plasmodium.[3]

2) Nerium Oleander:

Table:2 plant part used and it' s medicinal activities

Plant part used	Medicinal activity
Seed	Purgative and emetic
Leaf	Inflammation and bleeding
Root	Potent antidonate for scorpion and snail bites.

Nerium Oleander:

Family: Apocynaceae

Because of its superficial resemblance to the random olive Olea, it is commonly referred to as oleander. It is widely Developed, although it is thought to have started in southwest Asia.

Chemical constituents: The plant includes a number of Cardiac glycosides that are comparable to digitalis in function Oleandrin, nerine.and cardinalities are the most common Glycosides, although gemfibrozil, oleandrin, and odorised are Also found.



Fig:2 Nerium Oleander

Toxicity: Nerium oleander has long been thought to be a Dangerous plant since a variety of mixes may cause poisoning, especially in animals, when burnt in large amounts.

Traditional uses: Anticancer, antitumor activity. Antioxidant, anti-inflammatory, anti-microbial activity Nerium extracts have been shown to stimulate the immune system (immunomodulatory effect.[4]

3) Gloriosa supeb:

Family: Liliaceae



Fig3: Glorio

Toxicity: There are three successive and covering periods of Colchine poisoning, 10-24 hours later ingestion-gastrointestinal stage Emulating gastroenteritis.

Traditional uses: antimicrobial and anticancer. Antifungal antithrombotic/anticoagulant anthelmintic.

4) Laws onia Inermis:

Table 4: parts and its medical uses

Plant part used	Medicinal activity
Flower	Anticancer, antitumor
Leaves	Antioxidants
Leaves, flowers	Anti-inflammatory
Leaf	Antimicrobial

Laws onia Interims:

Family: Lythraceous

Toxicity: The toxicity of lawsonia inermis aqueous root Extract was studied in rats, and dizziness, lack of appetite, Partial paralysis, momentary amnesia, and spontaneous Miscarriage in pregnant females were observed.



Traditional uses: Leaves of lawsonia inermis give a significant restorative colour Lawsonia inermis is used as an antibacterial hepatoprotective, immunomodulatory Molluscicide antiurolithiatic.

Types of poisonous phytochemical:Plant poisons are the chemical constituents of organic nature, which are naturally synthesized in the plants through their individual Cellular activities with the help of enzymes.

Three major groups such as:

a) Systemic

b) Corrosive and

c) Irritant

Which are sub-divided according to their chemical composition and site of action that are summarized in Carod Poisonous content is concentrated only in certain plant parts; others are in entire plant parts. The term “poisonous” designates many kinds of reactions or Effects. [5]

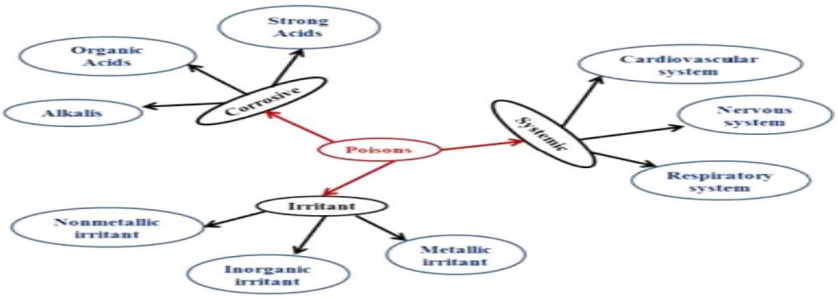


Fig5: Types of poisons in Phyto chemicals

IV. POISONOUS PLANT IN INDIA

1) Datura.



Fig6: Datura

Medicinal activity. Datura metal is well known for its insecticidal, herbicidal, anti-fungal, anti-bacterial, anti-cancer, ant inflammatory and anti-rheumatoid activity.
Clinical features: All the species of Datura are poisonous and potentially psychoactive.
Treatment: Ipecac to induce emesis or gastric lavage. Activated charcoal to reduce absorption of toxic substances. Catheterization to empty Bladder, if necessary, diazepam for hallucinations and delirium.
Medicinal uses: Datura herbs and its main alkaloids hyoscine are parasympatholytic with anticholinergic & CNS depressants effect.
Toxicity: The oil extract from the Datura seed is used to treat baldness & stimulate the growth of hair.

2) Nicotiana Tabacum:



Fig7: Nicotiana

It consists of the cured and dried leaves of Nicotiana Tabacum (Solanaceae). Its s cultivated in tropical countries especially in India, Srilanka, Brazil.
Clinical fefeature: The clinical features of tobacco are salivation, nausea, dizziness, drowsiness, headache, vomiting, diarrhoea, hand tremor, mental Confusion, circulatory collapse, convulsions, loss of consciousness, cardiac arrest, respiratory paralysis.
Treatment: In severe cases, Ipecac to induce emesis or gastric lavage. Activated charcoal supportive therapy directed towards maintaining Respiration and blood pressure and controlling convulsions.
Medicinal uses: Medicinal uses of tobacco are sedative, narcotics, emetics, antiseptic, used in rheumatic swelling, skin diseases and for insect Poisoning. [6]

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3) Nux- vomica (Bhati R. 2012):

It consists of dried ripe seeds of strychnic nux vomica linn (loganiaceous). The plant is native of the east indies and found.



Fig 8: Nux- Vomica

forest of Australia and Srilanka. It found commonly in Indian forest of Orissa, Bihar, Konkan Gorakhpur.

Clinical features: Nux vomica produced poisonous effects like, bitter tasting of mouth, feeling of suffocation, twitching of the muscles in neck, extreme Contraction affecting all muscles in the body.

Medicinal uses: Nux vomica increases the tone of intestine, used as a circulatory stimulant and bitter tonic. In Chinese medicine seeds are used to Reduced toxicity. Nux vomica is for diseases of the digestive tract, disorders of the heart and circulatory system.

4) Ricinus communis (Jena J, Gupta A 2012):



Fig:9 Ricinus communis

Ricinus communis, family – Euphorbiaceous,

Clinical features: Sign of Ricinus communis poisoning are burning sensation of the mouth and throat occur. After 3-6 hours' nausea, vomiting, severe Abdominal pain' and diarrhoea resulting in dehydration, electrolyte imbalance and shock.

Treatment: Induced emesis at home (ipecac). Immediate gastric lavage or activated charcoal. Correct fluid and electrolyte imbalance Immediately.

Medicinal uses: In the Indian system of medicine, the leaf, root and seed oil of this plant have been used for the treatment of the inflammation and Liver disorders, Hypoglycaemic, Laxative.

5) Thevetia neriifolia (Ahemad T 2017):

It consists of the seeds, latex, roots, and other parts of Thevetia peruviana (Apocyanaceae).

Constituents: glycolic oxides



Fig 10: Thevetia neriifolia

Clinical features: Thevetia neriifolia is a poisonous plant which can cause Sinus bradycardia, first and second-degree heart block, junctional rhythms.

Treatment: The treatments for poisonous effect of Thevetia neriifolia are Induced emesis at home (ipacae). Immediate gastric lavage or activated Charcoal.

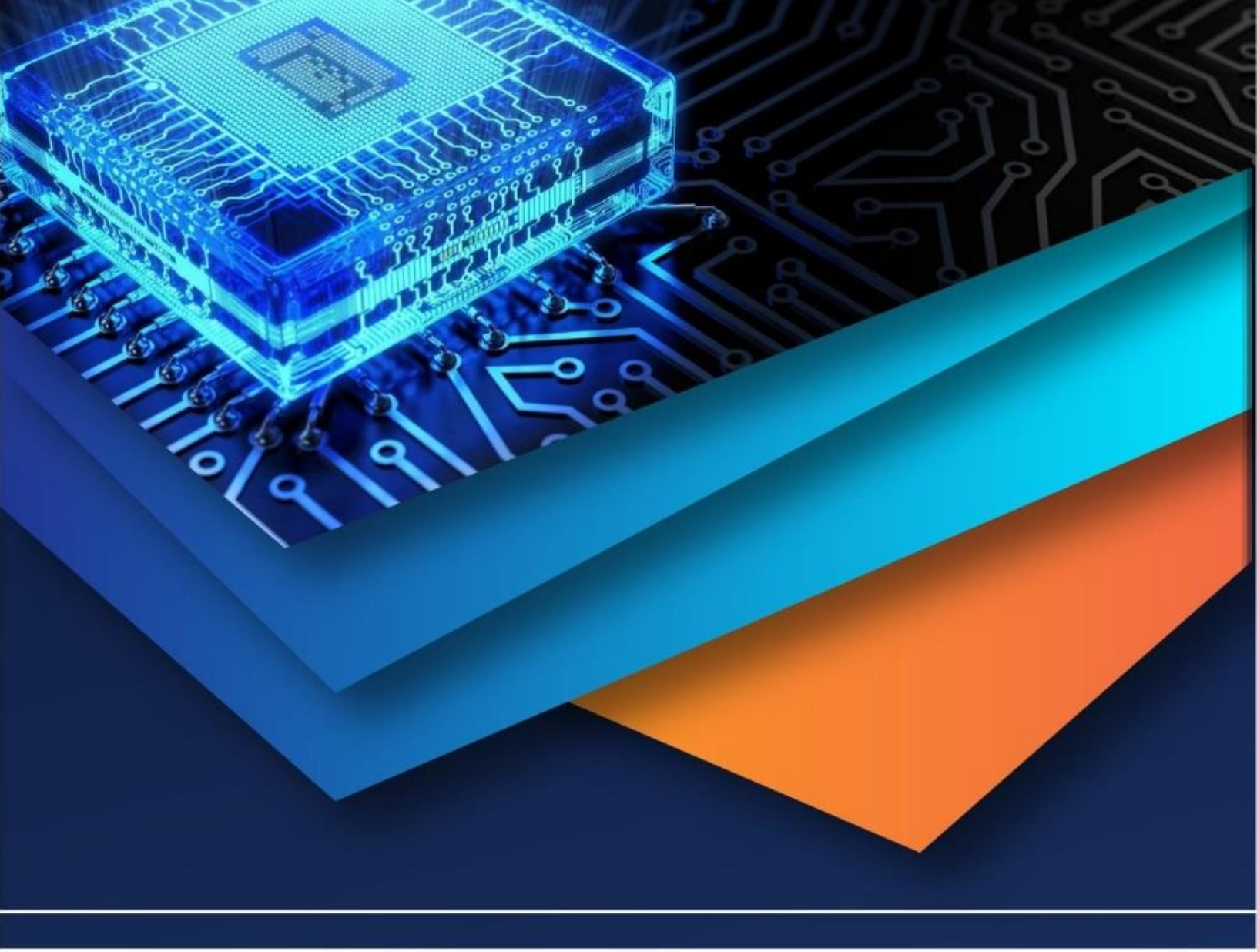
Medicinal uses: The seeds may be used as a purgative, cardio tonic, abortifacient, to treat dropsy and rheumatism.[7]

V. CONCLUSION

According to this study, it was concluded that many plants Around us that are used medicinally have toxicity prospects. Medicinal plants have potential benefits for the treatment of Certain diseases and at the same time, they may cause toxicity.

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