POISONOUS PLANTS

Table 215-1 Most Highly Poisonous Plants
Castor bean (*Ricinus communis*)
Coyotillo (*Karwinskia humboldtiana*)
Foxglove (*Digitalis purpurea*)
Jequirity bean (*Abrus precatorius*)
Oleander (*Nerium oleander*)
Poison hemlock (*Conium maculatum*)
Water hemlock (*Cicuta maculata*)
Yew (*Taxus* species)

Table 215-2 Most Commonly Encountered Poisonous and Nonpoisonous Plants	
Poisonous/Injurious	**Nonpoisonous**
Aloe species	African violet (*Episcia reptans*)
Azalea (*Rhododendron* species)	*Coleus* species
Cactus species	*Dracaena* species
Caladium species	Ficus plant (*Ficus* species)
Colchicum (autumn crocus, meadow saffron)	Honeysuckle (*Lonicera* species)
	Jade plant (*Crassula* species)
Dumbcane (*Dieffenbachia amoena*)	*Pyracantha* species
Fava beans (*Vicia faba*)	Rubber tree plant (*Ficus elasticus*)
Holly (*Ilex* species)	Spider plant (*Chlorophytum* species)
Jimsonweed (*Datura* species)	Umbrella plant (*Schefflera* species)
Lily of the valley (*Convallaria majalis*)	Wandering jew (*Tradescantia albiflora*)
Mistletoe (*Phoradendron flavescens*)	
Nightshade (*Solanum* species)	
Peppers (*Capsicum* species)	
Philodendron species	
Poinsettia (*Euphorbia* species)	
Poison ivy (*Toxicodendron* species)	
Pokeweed (*Phytolacca* species)	
Pothos (*Epipremnum* species)	

CLINICAL FEATURES:

- Dermatitis and GI irritation are the most commonly reported symptoms of plant toxicity

- Severe life-threatening effects or disabling injuries are EXTREMELY UNCOMMON and occur in only about 0.04% of patients. Death as a consequence of plant exposure occurs in <0.001% of patients

Table 215-3 Symptoms and Treatment of Severely Poisonous Plant Ingestions

Plant	Symptoms	Treatment
Castor bean (*Ricinus communis*)	Delayed gastroenteritis, delirium, seizures, coma, death	Whole-bowel irrigation
		Supportive care
Coyotillo (*Karwinskia humboldtiana*)	Ascending paralysis	Supportive care
Foxglove (*Digitalis purpurea*)	Nausea, vomiting, diarrhea, abdominal pain, confusion, cardiac dysrhythmias	GI decontamination with activated charcoal
		Monitoring of potassium level
		Antidysrhythmics
		Digoxin-specific Fab antibody for dysrhythmias
Jequirity bean (*Abrus precatorius*)	Delayed gastroenteritis, delirium, seizures, coma, death	Whole-bowel irrigation
		Supportive care
Oleander (*Nerium oleander*)	Nausea, vomiting, diarrhea, abdominal pain, confusion, cardiac dysrhythmias	GI decontamination with activated charcoal
		Monitoring of potassium level
		Antidysrhythmics
		Digoxin-specific Fab antibody for dysrhythmias
Poison hemlock (*Conium maculatum*)	Tachycardia, tremors, diaphoresis, mydriasis, muscle weakness, seizures, neuromuscular blockade	GI decontamination with activated charcoal
		Supportive care
Water hemlock (*Cicuta maculata*)	Nausea, vomiting, abdominal pain, delirium, seizures, death	GI decontamination
		Supportive care
Yew (*Taxus* species)	Common: nausea, vomiting, abdominal pain	GI decontamination with activated charcoal
	Rare: seizures, cardiac dysrhythmias, coma	Consider whole-bowel irrigation
		Supportive care

TREATMENT:

- Most plant-related exposures require NO TREATMENT and those that do often can be managed by simple GI decontamination procedures to decreases the absorption of ingested toxins
- Activated charcoal can adsorb many toxins and prevent their absorption into the body
- Whole-bowel irrigation using polyethylene glycol derivatives should be added when a potentially toxic intact seed has been ingested

SEVERELY POISONOUS PLANTS:

CASTOR BEAN (RICINUS COMMUNIS):

- RICIN is a potent toxalbumin that inhibits protein synthesis and causes severe cytotoxic effects on multiple organ systems
- Symptoms develop 6-8 hours after exposure
- Symptoms include gastroenteritis ➔ severe and haemorrhagic, followed by delirium, seizures, coma and death
- WHOLE BOWEL IRRIGATION HAS BEEN ADVOCATED to ensure rapid and complete decontamination of the GIT → rapid elimination of the bean before erosion of the outer shell occurs may decrease or prevent the release of potent toxins
- Observe for 12 hours and if other symptoms occur ➔ care is supportive

COYOTILLO ➔ found in Mexico. Leads to ascending paralysis and may lead to bulbar palsy and death in severe cases. Mechanical ventilation. No antidote

FOXGLOVE → AKA DIGITALIS PURPUREA. Contains cardiac glycosides similar to digoxin.

JEQUIRITY BEAN ➔ contains the toxalbumin ABRIN → one of the most lethal naturally occurring toxins known. Children have died after chewing (not swallowing) the beans and chewing and swallowing one bean may be lethal in adults. Symptoms are haemorrhagic gastroenteritis, followed by delirium, seizures, coma, demyelinating encephalitis and death.

OLEANDER ➔ contains OLEANDRIN, a cardiac glycoside. Act by inhibiting the sodium ad potassium ATPase pump and lead to hyperkalaemia and a variety of arrhythmias. Cross react sufficiently to lead to detection with serum digoxin level to confirm ingestion, but do not indicate amount ingested. Effects include nausea, vomiting, diarrhoeaa, abdominal pain and dysrhythmia. Potassium levels should be followed closely, hyperkalaemia may be refractory to normal treatments. Beware calcium as it may exacerbate digitalis toxicity, but there are no published data in human experience.

POISON HEMLOCK ➔ similar in structure and effect to nicotine, but can cause neuromuscular blockade. In severe cases, ascending paralysis, rhabdomyolysis, ARF, bradycardia, coma and death can occur.

COMMON POISONOUS AND INJURIOUS PLANTS:

Table 215-4 Symptoms and Treatment of Common Poisonous Plant Ingestions or Exposures

Plant	Symptoms	Treatment
Ackee (*Blighia sapida*)	Hypoglycemia	Glucose
Aloe (*Aloe barbadensis*)	Abdominal pain, diarrhea, red urine, nephritis	Supportive care
Azalea (*Rhododendron* species)	Usually minor symptoms	GI decontamination with activated charcoal
	Severe intoxication: salivation, lacrimation, bradycardia, hypotension, progressive paralysis	Atropine for symptomatic bradycardia
		Fluids or vasopressors for hypotension
Cactus	Pain and irritation from embedded spines	Removal of spines
		Rubber cement peel
Caladium species	Usually minor symptoms	Ingest cold milk or ice cream for oral burning
	Severe intoxication: burning and irritation of oral mucosa, swelling, drooling, dysphagia, respiratory compromise	Analgesics
		Consider steroids if severe symptoms
Colchicum (autumn crocus, meadow saffron, glory lily)	Delayed and severe gastroenteritis→severe multisystem organ failure	GI decontamination with activated charcoal
		Aggressive fluid resuscitation
Dumbcane (*Dieffenbachia amoena*)	Usually minor symptoms	Ingest cold milk or ice cream for oral burning
	Severe intoxication: burning and irritation of oral mucosa, swelling, drooling, dysphagia, respiratory compromise	Analgesics
		Consider steroids if severe symptoms
Fava beans (*Vicia faba*)	In persons with glucose-6-phosphate dehydrogenase deficiency: GI upset, fever, headache, hemolytic anemia, hemoglobinuria, jaundice	Treatment varies depending on degree of hemolysis seen
Henbane (*Hyoscyamus niger*)	Anticholinergic symptoms: hallucinations, mydriasis, tachycardia, agitation, seizures, coma	Consider physostigmine in severe cases
Jimsonweed (*Datura* species)	Anticholinergic symptoms: hallucinations, mydriasis, tachycardia, agitation, seizures, coma	GI decontamination with activated charcoal
		Consider whole-bowel irrigation
		Supportive care
Lily of the valley (*Convallaria majalis*)	Nausea, vomiting, diarrhea, abdominal pain, confusion, cardiac arrhythmias	GI decontamination with activated charcoal
		Monitoring of potassium level
		Antiarrhythmics
		Digoxin-specific Fab antibody for arrhythmias
Monkshood (*Aconitum* species)	Bradycardia, heart block, torsades de pointes, ventricular fibrillation	GI decontamination with activated charcoal
		Supportive care

Nettle (stinging nettle, bull nettle) (*Urtica* species)	Localized burning	Symptomatic care
Nightshade, common or woody (*Solanum* species)	Nausea, vomiting, diarrhea, abdominal pain	Supportive care
	With larger doses: delirium, hallucinations, coma	
Nightshade, deadly (*Atropa belladonna*)	Anticholinergic symptoms: hallucinations, mydriasis, tachycardia, agitation, seizures, coma	GI decontamination with activated charcoal
		Supportive care
Peach, apricot, pear, crab apple, yam bean, and hydrangea (pits or seeds)	Acute cyanide toxicity if large amounts are ingested: diaphoresis, nausea, vomiting, abdominal pain, lethargy	GI decontamination with activated charcoal
		Whole-bowel irrigation
		Cyanide antidote therapy
Pepper (*Capsicum* species)	Irritation and pain on contact	Copious irrigation with water
		Milk or ice cream for oral irritation
		Analgesics
Philodendron species	Usually minor symptoms	Cold milk or ice cream for oral irritation
	Severe intoxication: burning and irritation of oral mucosa, swelling, drooling, dysphagia, respiratory compromise	Analgesics
		Consider steroids
Pokeweed (*Phytolacca americana*)	Mucosal irritation, abdominal pain, nausea, vomiting, profuse diarrhea	GI decontamination with activated charcoal
		Supportive care
	Severe intoxication: coma, death	
Potato, eggplant (raw) (*Solanum* species)	Nausea, vomiting, diarrhea, abdominal pain	Supportive care
	With larger doses: delirium, hallucinations, coma	
Pothos (devil's ivy, *Epipremnum* species)	Usually minor symptoms	Cold milk or ice cream for oral irritation
	Severe intoxication: burning and irritation of oral mucosa, swelling, drooling, dysphagia, respiratory compromise	Analgesics
		Consider steroids
Yellow sage (*Lantana camara*)	Dilated pupils, vomiting, diarrhea, weakness, coma	GI decontamination with activated charcoal
		Fluids
Toxicodendron species (poison ivy, oak, and sumac)	Dermatitis	Skin protection
		Antipruritic and topical therapies
		Systemic steroids for facial, genital, or widespread involvement
Holly (*Ilex* species)	Gastroenteritis	GI decontamination with activated charcoal
	Can be fatal if significant ingestion	Supportive care
Poinsettia (*Euphorbia pulcherrima*)	Occasional local irritation	—
American mistletoe (*Phoradendron flavescens*)	Gastroenteritis	GI decontamination with activated charcoal
		Supportive care
Easter lily (*Lilium longiflorum*)	Toxicity has not been reported in humans	No treatment necessary