CONDITION

Blue nightshade poisoning

Learn how blue nightshade poisoning can affect the stomach, nervous system, breathing, and heart, and what to do after a possible exposure.

WHAT IT IS
Toxic plant poisoning from eating blue nightshade

BODY SYSTEM
Digestive and nervous systems, breathing and heart

MAIN SYMPTOMS
Nausea, vomiting, confusion, breathing difficulty

WHAT CAUSES IT
Eating toxic blue nightshade

HOW IT IS DIAGNOSED
Exposure history, examination, plant identification

MAIN TREATMENT
Supportive care

CAN IT BE CURED?
Sometimes - recovery with timely supportive care

IS IT AN EMERGENCY?
Sometimes - trouble breathing, seizure, collapse, or shock

LONG-TERM OUTLOOK
Recovery possible, but severe complications can occur

Overview

Blue nightshade poisoning can happen when someone eats a toxic plant known as blue nightshade. The name most often refers to Solanum dulcamara , also called bittersweet nightshade. Its purple flowers and red berries can make the plant attractive to children. The berries may also be mistaken for edible fruit.

Common plant names are not precise. Several different plants may be called nightshade, and their toxic effects can differ. Blue or bittersweet nightshade is not the same plant as deadly nightshade, belladonna, or jimsonweed. For this reason, professional plant identification can be important after an exposure.

Blue nightshade contains steroidal glycoalkaloids, including solanine-related chemicals. These natural plant defenses can irritate the digestive system and interfere with normal nerve and

cell function. The concentration varies by plant part, maturity, growing conditions, and species. Leaves, stems, and berries should all be treated as potentially toxic.

Many exposures cause digestive symptoms, such as nausea, vomiting, stomach pain, or diarrhea. Larger or more serious exposures may affect alertness, muscle control, breathing, blood pressure, or heart rate. A person may initially appear well, so it is important not to wait for symptoms before seeking poison-control advice.

In the United States, call Poison Control at 1-800-222-1222 or use the webPOISONCONTROL service after a suspected ingestion. The service is free and available at all times. Outside the United States, contact your local poison information center or emergency service.

Symptoms

Symptoms depend on the exact plant, the amount swallowed, the plant part, and the person's age and health. They may begin with irritation of the stomach and intestines.

Possible symptoms include:

Not every person develops all of these symptoms. Digestive symptoms alone do not show how serious an exposure is. Other plants called nightshade can cause a different pattern, including marked agitation, very dry skin, blurred vision, or severe confusion.

Call emergency services immediately if the person:

Do not delay emergency care while trying to identify the plant.

- Nausea, vomiting, stomach cramps, or diarrhea
- Burning or irritation in the mouth
- Headache, dizziness, weakness, or unusual tiredness
- Dry mouth or enlarged pupils
- Confusion, agitation, unusual behavior, or hallucinations
- Abnormal sweating or fever
- Changes in sensation or muscle strength
- A slow, fast, or irregular heartbeat
- Low blood pressure, fainting, or shock
- Seizures, paralysis, reduced alertness, or breathing difficulty in severe poisoning
- Has trouble breathing

- Collapses, faints, or cannot be awakened
- Has a seizure
- Develops severe confusion or unsafe behavior
- Has signs of shock, such as extreme weakness, pale or clammy skin, or loss of consciousness

Causes and risk factors

Poisoning usually follows eating berries, leaves, stems, or another part of the plant. Children may be attracted to the berries. Adults may be exposed after confusing the plant with an edible berry, herb, or wild food.

The amount of toxin cannot be judged reliably by appearance or taste. Ripeness may affect glycoalkaloid levels, but both ripe and unripe plant material may be unsafe. Cooking, drying, or soaking should not be assumed to remove the toxins.

Factors that can increase the chance of exposure or serious illness include:

Touching the plant is less likely to cause whole-body poisoning than swallowing it. However, sap may irritate the skin or eyes in some people. Wash exposed skin with soap and water. If sap enters the eye, rinse gently with clean, lukewarm water and contact Poison Control or a healthcare professional for further instructions.

Pets can also be poisoned by nightshade plants. A veterinarian or animal poison-control service should evaluate suspected animal exposures.

- Young age, because a small amount may represent a larger dose for body size
- Eating an unknown plant during hiking, gardening, or foraging
- Keeping berry-producing nightshade plants where children can reach them
- Mistaking blue nightshade for an edible plant
- Swallowing a larger amount or more than one plant part
- Delayed contact with a poison center or medical service
- Existing medical problems that make dehydration, low blood pressure, or breathing problems harder to tolerate

Diagnosis

There is no home test that can confirm blue nightshade poisoning. Diagnosis is based on the exposure history, symptoms, physical examination, and, when possible, identification of the plant.

A healthcare professional or poison specialist may ask:

If it can be done safely, take clear photographs of the entire plant, leaves, flowers, berries, and stem. A small sample may also help, but it should be placed in a sealed container and kept away from children. Do not handle an unknown plant with bare hands if it is irritating, and do not bring loose plant material into a healthcare area without asking first.

In an emergency department, testing depends on the symptoms. Clinicians may check blood pressure, temperature, oxygen level, mental status, and heart rhythm. Blood tests may be used to look for dehydration, electrolyte changes, kidney problems, or other causes of illness. An electrocardiogram, or ECG, records the heart's electrical activity.

Doctors may also consider foodborne illness, medication effects, pesticide exposure, and poisoning from other plants. Accurate plant identification can help distinguish blue nightshade from belladonna and other species with different toxins.

- The person's age, weight, symptoms, and medical conditions
- Which part of the plant was eaten
- When the exposure happened
- The estimated amount swallowed
- Whether anyone else ate the plant
- Whether medicines, chemicals, or other plants may also have been involved

Treatment and management

Contact Poison Control promptly after a suspected ingestion, even if the person feels well. A poison specialist can assess the likely risk and advise whether observation at home or medical evaluation is appropriate. Do not rely on online photographs alone to identify the plant.

While waiting for advice:

Making someone vomit can lead to choking or cause stomach contents to enter the lungs. Activated charcoal can also enter the lungs if it is given to a person who cannot protect their airway. Healthcare professionals may consider charcoal in selected situations, but it should not be used at home unless a poison specialist specifically directs it.

There is no specific antidote that reverses blue nightshade glycoalkaloid poisoning. Treatment

is supportive, meaning it protects breathing, circulation, hydration, and other body functions while the toxins are cleared.

Medical treatment may include:

The treatment plan depends on the symptoms and cannot be predicted from the number of berries alone. People with mild exposures may only need observation after consultation with Poison Control. Significant vomiting, neurologic symptoms, blood-pressure changes, or abnormal heart findings usually require in-person assessment.

- Remove any remaining plant material from the mouth.
- Gently rinse the mouth.
- Do not make the person vomit.
- Do not give charcoal, herbal products, alcohol, or other home remedies.
- Do not give food or drink to someone who is drowsy, vomiting repeatedly, having a seizure, or having trouble swallowing.
- Keep the plant, packaging, or photographs available for identification.
- Monitoring of breathing, blood pressure, temperature, alertness, and heart rhythm
- Fluids through a vein for dehydration or low blood pressure
- Medicine to control significant nausea or vomiting
- Treatment for seizures, agitation, or abnormal heart rhythms when needed
- Oxygen or assisted breathing in severe cases
- Repeat blood tests or ECGs if symptoms are ongoing

Complications

Repeated vomiting and diarrhea can cause dehydration and abnormal levels of salts such as sodium or potassium. These changes may contribute to weakness, confusion, kidney stress, or heart-rhythm problems.

A person with reduced alertness may inhale vomit into the lungs. This is called aspiration and can lead to breathing problems or lung inflammation. Severe neurologic effects may include seizures, paralysis, coma, or failure to breathe normally.

Serious poisoning can also cause dangerously low blood pressure or an unstable heart rhythm. The likelihood of complications depends on the actual plant, amount eaten, symptoms, and speed of supportive care.

Recovery is possible with timely assessment and treatment. However, a person whose symptoms seem to improve should continue to follow the observation and discharge instructions provided by the poison center or medical team.

Follow up

After home observation or discharge from medical care, follow the specific instructions from Poison Control or the treating clinician. Continue monitoring for new or returning vomiting, diarrhea, weakness, confusion, fainting, breathing difficulty, or abnormal behavior.

Seek emergency care for a seizure, collapse, severe confusion, trouble breathing, inability to awaken, or signs of shock. Contact a clinician or poison center promptly for repeated vomiting, worsening diarrhea, inability to keep fluids down, reduced urination, increasing weakness, or new heart-related symptoms.

Routine follow-up may be appropriate if digestive symptoms persist, hydration remains difficult, or the medical team requested repeat testing. A clinician may recheck electrolytes, kidney function, or heart rhythm after a more significant exposure.

To reduce future risk, remove or fence off the plant when this can be done safely. Wear gloves, keep cuttings and berries away from children and pets, and dispose of them according to local guidance. Teach children never to eat outdoor berries or leaves without permission from a knowledgeable adult. Wild plants should not be used as food unless their identity and safety are certain.

Sources

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