CONDITION

Oleander poisoning

Oleander poisoning is toxic illness caused by swallowing plant chemicals that can disrupt the heart's rhythm.

WHAT IT IS
Poisoning from heart-active chemicals in oleander plants

BODY SYSTEM
Digestive system, heart and circulation, and nervous system

MAIN SYMPTOMS
Vomiting, abdominal pain, dizziness, abnormal heartbeat

WHAT CAUSES IT
Swallowing cardiac glycosides from oleander plants

HOW IT IS DIAGNOSED
Exposure history, ECG, blood tests, and plant identification

MAIN TREATMENT
Emergency monitoring, supportive care, and digoxin immune Fab

CAN IT BE CURED?
Yes - prompt treatment can reverse acute toxicity

IS IT AN EMERGENCY?
Yes - any suspected swallowing needs immediate advice

LONG-TERM OUTLOOK
Usually full recovery; severe poisoning can be fatal

Overview

Oleander poisoning happens when toxic chemicals from an oleander plant enter the body, usually after part of the plant is swallowed. Common oleander, or Nerium oleander , and yellow oleander, or Cascabela thevetia , contain similar poisons.

These poisons are called cardiac glycosides. They affect the movement of salts such as sodium and potassium in heart cells. This can make the heart beat too slowly, too quickly, or irregularly. The effects are similar to those of excessive digoxin, a heart medicine.

All parts of the plant can contain cardiac glycosides, including the leaves, flowers, stems, sap, roots, and seeds. Fresh and dried material can both be toxic. Tea, herbal preparations, or food contaminated with oleander can also cause poisoning.

Oleander poisoning is a medical emergency because serious heart rhythm problems may develop even when early symptoms seem mild. Do not wait for symptoms after a suspected ingestion. Contact emergency services or a poison centre immediately.

Symptoms

Symptoms often begin in the digestive system. They may develop within hours, although timing is not predictable.

Early symptoms can include:

Effects on the heart may cause a slow pulse, a fast pulse, or a rhythm that feels irregular. You may notice pounding, fluttering, skipped beats, chest discomfort, faintness, or fainting. Low blood pressure can make the skin feel cool and cause marked weakness.

Severe poisoning may lead to collapse, seizures, reduced alertness, difficulty breathing, or cardiac arrest. A person can have a dangerous rhythm without being able to feel it, which is why hospital heart monitoring is important.

Oleander sap may irritate the skin or eyes. Skin contact alone is much less likely to cause whole-body poisoning than swallowing the plant, but contaminated hands can transfer sap or plant material to the mouth.

- Nausea, vomiting, or loss of appetite
- Abdominal pain or diarrhoea
- Dizziness, weakness, or unusual tiredness
- Headache, confusion, or blurred or altered vision

Causes and risk factors

Poisoning most often follows chewing or swallowing leaves, flowers, seeds, or other plant parts. Yellow oleander seeds can contain substantial amounts of cardiac glycosides. It is not possible to judge safety from the size or appearance of a piece of plant.

Exposure may happen when a child explores a plant, when oleander is mistaken for an edible plant, or when someone uses it as an unproven herbal remedy. Food and drinks can become contaminated if plant material is used to make tea, stirred into food, or used as a cooking skewer.

Deliberate ingestion can cause severe poisoning. If the exposure was intentional, emergency

care should address both the poisoning and the distress or circumstances behind it.

Factors linked with a greater chance of serious effects include swallowing a larger or more concentrated amount, delayed treatment, kidney problems, abnormal potassium or magnesium levels, and existing heart disease. Certain medicines that slow the heart or affect its rhythm may complicate treatment. These factors do not reliably predict what will happen to one person.

Simply having oleander in a garden does not mean poisoning will occur. The main risk comes from swallowing plant material or a preparation made from it.

Diagnosis

There is no single routine test that proves or rules out oleander poisoning in every case. The diagnosis is usually based on the suspected exposure, symptoms, heart tracing, and blood test results.

An electrocardiogram, usually called an ECG or EKG, records the heart's electrical activity. It may show a slow heart rate, delayed electrical signals, extra beats, or a dangerous rhythm. Continuous monitoring can detect changes that come and go.

Blood tests commonly check potassium, magnesium, kidney function, blood sugar, and signs of dehydration. Potassium may become dangerously high in significant acute poisoning, although a normal result does not rule poisoning out.

A digoxin blood test may react with some oleander glycosides. However, the number does not measure oleander exposure reliably and cannot be interpreted in the same way as a digoxin level. Specialized laboratories can sometimes identify plant toxins, but these tests are not usually available quickly enough to guide emergency care.

If it is safe, a photograph or sample of the plant may help with identification. Do not handle the plant with bare hands, and do not delay medical help while trying to identify it.

Treatment and management

Oleander poisoning is treated in an emergency department or hospital. Care focuses on protecting breathing and circulation, monitoring the heart, correcting fluid or electrolyte problems, and treating dangerous heart rhythms.

Activated charcoal may be considered soon after ingestion. It binds some poison inside the digestive tract. It is not suitable in every situation, especially if a person is drowsy, vomiting

heavily, or unable to protect their airway. Do not take charcoal or give it to someone unless a poison specialist or medical professional directs you to do so.

Digoxin immune Fab is an antibody treatment that binds digoxin and related cardiac glycosides. It may be used for severe oleander poisoning, especially when there are life-threatening heart rhythm changes, cardiovascular collapse, or marked potassium elevation. It is given in hospital, and the amount needed is determined by the treating toxicology and emergency teams.

Other treatment may include intravenous fluids, medicines for a very slow heart rate, and careful correction of potassium or magnesium disturbances. Temporary electrical pacing may sometimes be needed if severe slowing or heart block does not respond to other treatment.

Vomiting should not be induced. Home remedies, milk, alcohol, and herbal products do not neutralize the poison and may delay effective care. Dialysis does not usually remove cardiac glycosides effectively.

Complications

The main complications involve the heart. Cardiac glycosides can interfere with both the heart's natural pacemaker and the electrical pathways that coordinate each beat.

Possible complications include:

Repeated vomiting can worsen dehydration and salt imbalances. If the heart or breathing stops for a prolonged period, lack of oxygen may cause lasting injury, although this is not the usual outcome when poisoning is recognized and treated promptly.

- Very slow, fast, or disorganized heart rhythms
- Heart block, meaning electrical signals do not travel normally
- Low blood pressure and poor blood flow to vital organs
- High potassium, dehydration, or kidney injury
- Aspiration, when vomit enters the lungs
- Seizures, cardiac arrest, or death in severe cases

Prevention

Oleander poisoning can usually be prevented by keeping plant material out of the mouth and away from food. Oleander does not need to be removed from every property, but its toxicity

should be considered when deciding where to plant it.

Keep children and pets from chewing the plant. Wear gloves when pruning, wash your hands afterward, and dispose of cuttings where they cannot be eaten. Do not burn or compost cuttings where children or animals could reach them.

Never use oleander leaves, flowers, seeds, bark, or sap in teas, medicines, supplements, or food. Do not use its branches as cooking skewers or stirring sticks. Drying or boiling the plant does not reliably make it safe.

Store garden cuttings separately from edible plants. If oleander grows near herbs or vegetables, check harvested food carefully for stray leaves or flowers.

Living with it and what to expect

Oleander poisoning is usually an acute event rather than a lifelong condition. Symptoms and ECG changes may evolve over hours, so observation can continue after the person starts to feel better. Discharge is considered only after the treating team is satisfied that the heart rhythm, blood pressure, and important blood tests are stable.

Many people who receive timely care recover fully without ongoing treatment. Recovery time is influenced by the amount and form swallowed, the severity of heart effects, other health conditions, and how quickly effective treatment begins.

After discharge, tiredness or digestive symptoms may take a little time to settle. Follow the hospital's instructions about activity, medicines, and repeat blood tests. Routine follow-up may be needed if there was kidney injury, a significant heart rhythm problem, or another medical complication.

Long-term heart damage is not expected after an uncomplicated recovery. Severe poisoning that causes prolonged low blood pressure, cardiac arrest, or oxygen shortage can have longer-lasting effects.

If ingestion was intentional, emotional support and mental health follow-up are an important part of recovery. A safety plan may include limiting access to toxic plants and medicines and arranging continued support.

When to get medical help

Treat any suspected swallowing of oleander as urgent, even if there are no symptoms. Call your local poison centre or emergency medical service immediately. In the United States,

Poison Control is available at 1-800-222-1222 . Elsewhere, use your regional poison information service.

Call emergency services now if the person has:

Do not make the person vomit. Remove any remaining plant material from the mouth without pushing it farther in. If sap is on the skin, remove contaminated clothing and wash the area with soap and water. If it is in the eyes, rinse with clean lukewarm water.

Routine medical follow-up is different from emergency care. After hospital treatment, contact the recommended clinician if symptoms return, vomiting continues, or follow-up tests cannot be completed.

- Fainted, collapsed, or cannot be awakened
- A seizure or difficulty breathing
- Chest pain or a very slow, fast, or irregular heartbeat
- Severe weakness, confusion, or repeated vomiting
- Signs of shock, such as cool skin and marked faintness

Common questions

How much oleander is poisonous?

There is no amount that can safely be used to judge risk at home. Toxin levels differ between plant species, plant parts, and individual plants. Any swallowed amount should be discussed immediately with a poison centre.

Can touching oleander poison me?

Touching the plant is unlikely to cause the same whole-body poisoning as swallowing it. However, the sap may irritate skin and eyes, and contaminated hands can carry material to the mouth. Wear gloves when handling cuttings and wash exposed skin.

Can oleander poisoning happen from tea or herbal medicine?

Yes. Tea, extracts, and traditional preparations made from oleander can contain cardiac glycosides. Boiling does not reliably destroy them. Oleander has no safe home-remedy use.

How long does oleander poisoning last?

The most important effects usually occur during the acute period after exposure, but timing and duration are not predictable at home. Hospital monitoring may continue until the ECG, blood pressure, and electrolyte levels remain stable.

Is there an antidote for oleander poisoning?

Digoxin immune Fab can bind digoxin-like cardiac glycosides and may be used in severe cases. It is not needed for every exposure and must be given with hospital monitoring.

Can you fully recover from oleander poisoning?

Many people recover fully with timely assessment and treatment. Severe heart rhythm problems, cardiac arrest, or prolonged low blood pressure can lead to lasting injury or death, so early emergency advice matters.

Sources

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