

ApS: OLEANDER POISONING

IN COMPANION AND PRODUCTION ANIMALS

INTRODUCTION

Flora Catalana is an association that aims to bring knowledge about the catalan flora closer to people and promote the protection of the flora, disseminating information to the population.

Nerium oleander, a Mediterranean native plant, is one of the most reported plants as a cause of intoxication in animals.

OBJECTIVES

- Expand information on toxicology on the Flora Catalana website
- Publish an article in the journal “Milfulles”
- Participate as a speaker in the course “Toxicologia vegetal”

TOXIC MECHANISM

Cardiac glycosides (oleandrin, nerin, digitoxigenin, olinerin...) inhibit the Na⁺/K⁺ ATPase pump.

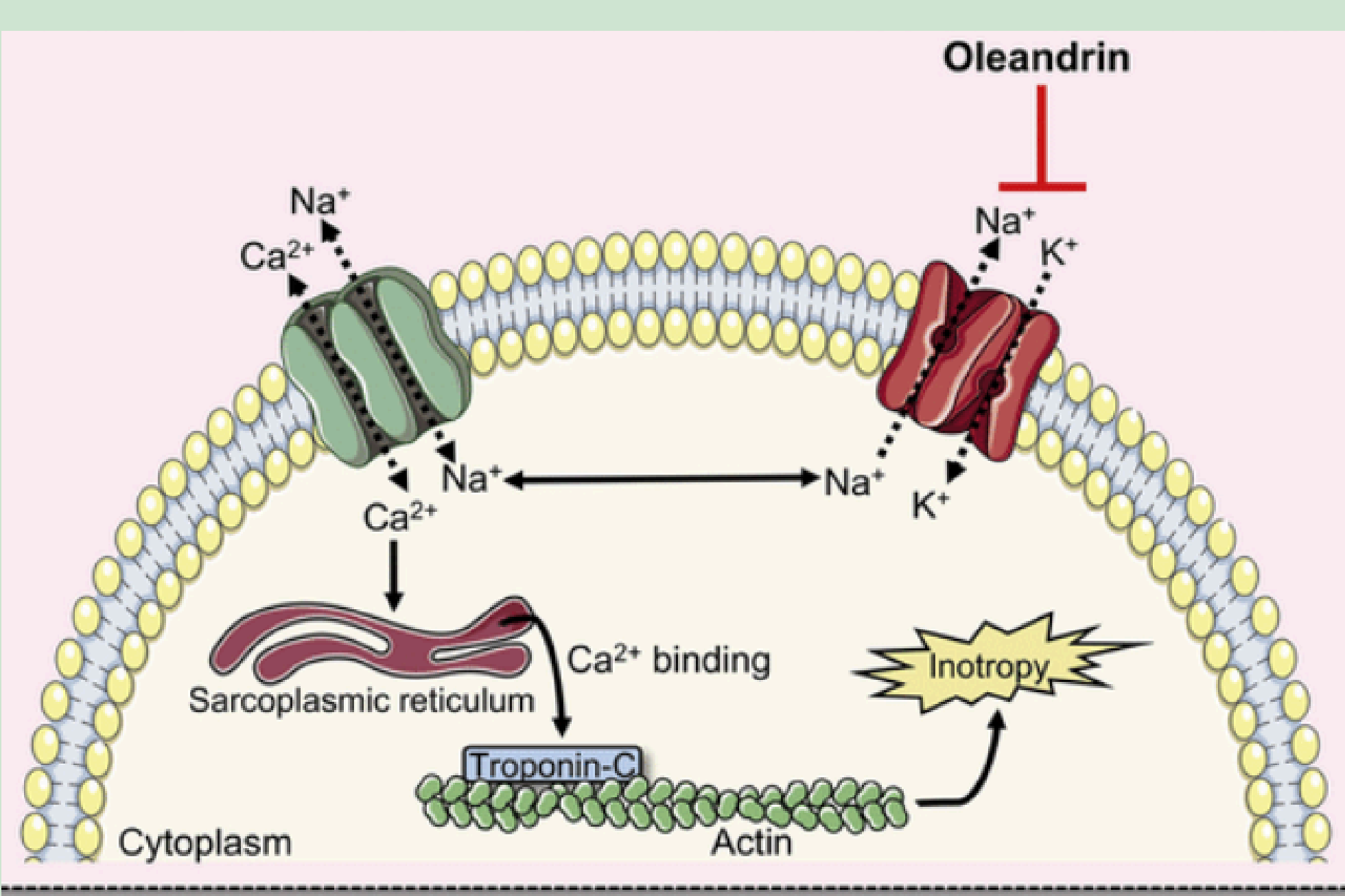
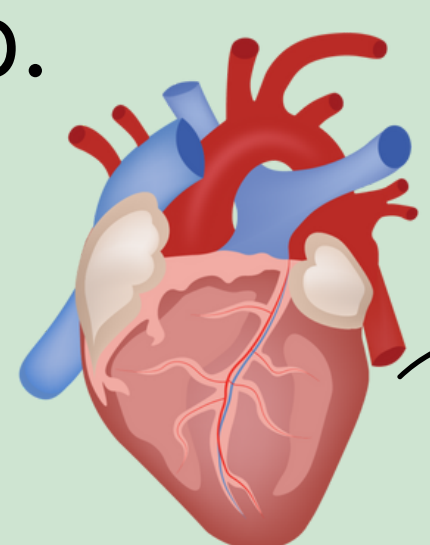


Figure 1. Inhibition of the Na⁺/K⁺ pump by the binding of oleandrin (Dey, 2020).

Frequently, production animals become poisoned due to taccidental incorporation of the plant into the forage ration.

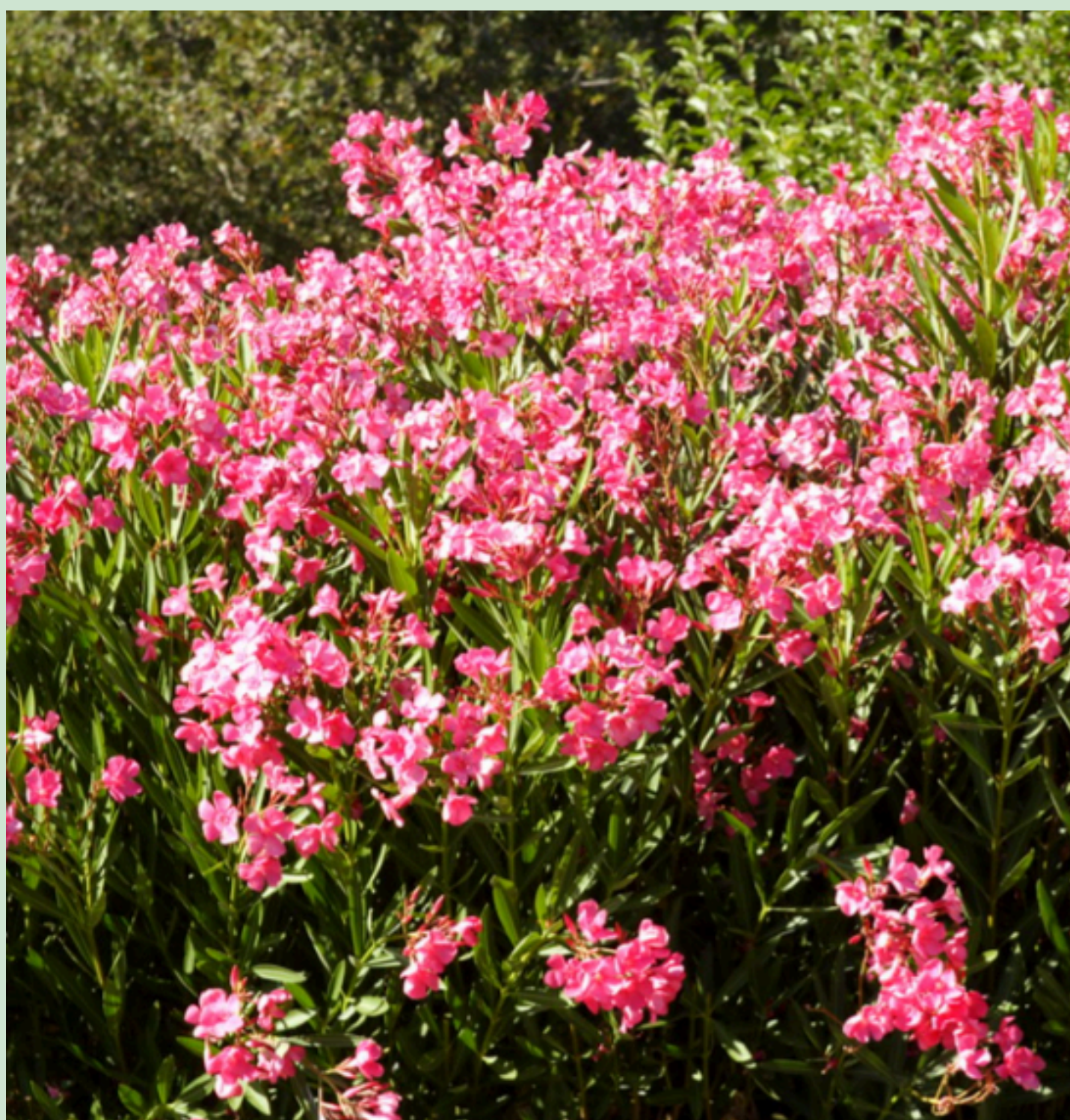


Figure 2. *Nerium oleander* bush and flowers (Shupe, 2009; Martín Vicente, 2011).

SIGNS AND SYMPTOMS

- Medical history + clinical findings
- Chromatography or immunoassay: non-specific.
- Necropsy: leaves in the stomach.

DIAGNOSIS

- Arrhythmias, vomiting, diarrhea, depression, weakness.
- Azotemia, hyperglycemia, hyperkalemia, ↑CK and LDH.

TREATMENT

- Decontamination: activated charcoal
- Restoration of electrolyte balance: intravenous fluids
- Correction of arrhythmias: lidocaine

Digoxin immune fab: cardiac glycosides bind to anti-digoxin antibodies.

CONCLUSIONS

Oleander poisoning produces symptoms such as vomiting, arrhythmias, and weakness. The diagnosis of the poisoning is carried out through medical history and clinical examination. Support treatment is usually given.

To prevent risks, it is important to know the plants present on farms, pastures and gardens.

Table 1. Compilation of cases of oleander poisoning in various animal species.

Country	Specie	Symptoms	Outcome
USA	Dog	Vomiting, lethargy, ataxia, tachycardia. Treated with digoxin immune fab	Recovery
USA	Cat	Vomiting, diarrhea, lethargy, tachycardia, tachypnea. Treated with digoxin immune fab.	Euthanasia
Italy	Cows	Depression, weakness, anorexia, hypogalaxy, lack of rumination. Symptomatic treatment.	26% mortality
Chile	Goats	Weakness, apathy, agalactia, anorexia, tachycardia	48% mortality
Spain	Horse	Apathy, abdominal pain, tachycardia. Symptomatic treatment.	Euthanasia
Italy	Ducks	Tachypnea, sialorrhea, ataxia	100% mortality

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