

Manchineel apple of death

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ARTICLE INFO

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Key words:

toxicology; poisoning; Manchineel tree

LETTER TO THE EDITOR

Clinical chemistry and analytical toxicology are spiritually intertwined. Interwoven with the blood specimens received in the lab are people's stories, sometimes more commonplace, other times more colourful... which led them there. Usually... seeking refuge under a certain tree during a storm is not one of the stories that bring a person to medical attention.

It is well known to all that in the Bible, Eve offered Adam the poisoned apple. Snow White was offered the poisoned apple which was to send her to sleeping oblivion. The saying goes that an apple a day keeps the doctor away, but consuming numerous crunched apple seeds which containing amygdalin can cause toxicity. Also in the intricacies of nature there exists a fruit which looks a bit like a green small apple and is instead very toxic. This short review delves into how the Manchineel tree has mastered its own art of toxicology.

Trees are generally considered innocuous, however this is not universally so for all trees. We walk or drive past trees on a day to day basis. Nobody hardly ever thinks twice about this.

A glamorous evergreen tree found mostly in tropical regions called the Manchineel tree or *Hippomane mancinella* is a case in point. It is considered the most toxic tree on earth and to that effect added to the 2011 Guinness book of records. Effects may be both dangerous as they could potentially be deadly. Eating that manchineel 'beach apple' can turn out to be quite a toxic unpleasant experience (1).

Consultant radiologist Dr. Nicola Strickland inadvertently tasted the fruit and her symptoms slowly subsided over 8 hours. The taste is initially sweet but the toxic effects soon start kicking in.

Christopher Columbus referred to it as 'manzanilla de la muerte' or the little apple of death.

Even just standing under this tree in the rain can be harmful. Reports of students who took shelter during a storm under this tree gave rise to concurrent dermatitis and ophthalmitis (2). Burning the wood would also result in toxic smoke.

The beach trees exude toxic milky sap with caustic effects. Its latex contains not just skin irritants but also co-carcinogens and cryptic co-carcinogens (3). The sap has been used on poisoned arrows by the Caribs.

Its toxic principles have been long known (4-8). Warning signs and red rings are now being used to alert unwary visitors.

There have been case reports in the literature of manchineel poisoning (9). In this day and age there even is a video testimony on YouTube of an individual allegedly poisoned by manchineel.

Irritant dermatitis is known to occur (10). Contact dermatitis occurs with strong burning and itching sensations with later erythema and bullae formation (11). The characteristic skin reactions have also been referred to as manchineel dermatitis (12). A possible link was made between bradyarrhythmias and Manchineel poisoning (13). Manchineel keratoconjunctivitis and ocular burns have been described (14, 15).

In 1953 an article on accidents due to Manchineel in the Antilles was published in the French journal 'Bulletin de la Societe de pathologie exotique et de ses filiales' (16).

In 2019, a retrospective case series report encompassing 97 patients which had been alerted to French Poison Control Centers over a specific time period was published. Gastrointestinal and oropharyngeal disturbances have been described. They also mention the potential for bradycardia and hypotension. If consumption occurred in larger quantities symptoms may be more severe with haemodynamic disturbance and more severe oropharyngeal injuries (17).

It is claimed that extracts have been used in folk herbal remedies in attempts to treat elephantiasis.

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