

A REVIEW STUDY ABOUT PHARMACEUTICAL AND TOXICOLOGICAL PROPERTIES OF THEVETIA NERIFOLIA LINN

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ABSTRACT

Thevetia Nerifolia Linn (family: Apocynaceae) commonly known as “Peet kaner” or “Peet Karveer” has been used in various traditional system of medicine for various ailments since ancient time. This plant contains three Glycosides viz Thevetin, Thevotoxin and Carberin. These substances found in plant are compound of a sugar and non- sugar compound having a toxicological action. Due to toxicological properties this plant is mainly used externally in various skin disease disorder, wound, Krimi, Netrakopa and Kandoo. But internal use is indicated by Acharya charak in Kushtha and Acharya Sushrut in ashmari and Abdominal disorder, Extract of bark and leaf shows various activities like Anti-inflammatory, Anti-microbial, anti-helminth, cardiac stimulant and convulsant. This article reviews about various medicinal and toxic properties of the plant.

KEYWORDS: Thevetia nerifolia, Peet Karveer, Thevetis, Oleandrin.

INTRODUCTION

Thevetia Nerifolia Linn (family: Apocynaceae) is distributed in all over India mostly North

and South forest. This is native plant of America. This plant is also found in garden for the purpose of flower and Ornament. The plant is commonly known as Peet Kaner and vernacular name are Peet Karveer, Ashwamar, Yellow Oleander, Exile three, Lucky nut. This is well known for its medicinal value in ayurvedic and Siddha system of medicine. Physical and phytochemical analysis of its nut and plant extract reveals the presence of glycosides, volatile oil, tannic acid, wax and crystalline substances, thevetin acts like digitalis.

A variety of plant extract are effective against many disease viz Skin disease, wounds, Krimi and so on. However the mechanism of the pharmacological action of its plant and nut can be aided by isolation of its active principal and determination of structure-function relationship.

Kingdom: Plant kingdom

Division: Phanerogams

Phyllum: Angiosperms

Class: Dicotyledanae

Subclass: Gamopetaleae

Order: Bicarpellatae

Family: Apocynaceae

Genus: Carbera/ Thevetia

Species: Neriifolia/thevetia

MORPHOLOGY

Habit- An evergreen shrub or small tree about 15 feet long.

Stem- Erect branched cylindrical Globrous and solid.

Leaf- Simple, irregularly scattered on the stem, almost sessile exstipilate, Linear-lanceolate about 6 inch long and 0.5 inch width, margin entire Apex acute, Green coloured, glabrous, reticulate venation.

Flower- Padicillate, bracteates, hermaphrodite, compte, actinomorphic, bell shaped, bright yellow, slightt scent present, it have five sepal green, five petel yellow, five stamens with bicarpellary syncapous ovary.

Fruit- Rounded light green in unripe stage, after ripe become brown colour, 3.5 cm radius, which have single specific triangular mesocarp nut. Inside the mesocarp light yellow colour

two seed present.

PHARMACEUTICAL AND TOXICOLOGICAL STUDY

Thevetia nerifolia is mortal plant after ingestion. The review was done to acknowledge the determination of plant. All part of these plant or toxic and contain a variety of cardiac glycosides including Nerifolin, thevetis A, Thevetis B and Oleandrin. Ingestion of Oleandrin resulting many toxic symptoms.

Active Principles:-The plant is highly poisonous and contain as active principal two glycoside namely thevetis and carberin. Both these glycosides are residing in the milky juice which exudates from all part of the plant. Kernel seed of yellow Olender have to glycosides thevetis and thevetoxin. Thevetoxin is less toxic than thevetis and resembles in action the glycosides of digitalis. Peruvoside said to be one of the world best cardiac drug isolated from yellow olender.

Sign and symptoms: Burning pain in mouth and dryness of the throat, tingling and numbness on the tongue, vomiting and often diarrhea, headache, dizziness, dilated pupil, loss of muscular power and fainting, pulses is soft and slow later became rapid, weak and irregular, heart block and collapse **retin** and death occurs from peripheral circulatory failure tetanic convulsion are observed.

Fatal dose- 8 to 10 seed or 15 to 20 gm.

Fatal period- 24 hour.

Treatment

- a. Stomach wash with tannic acid,
- b. Intravenous administration of molar solution of sodium lactate to combate acidosis Surjika kshar (sodium bicarbonate), and potassium salt.
- c. 5% glucose solution with 1.2 mg atropine (pure dhatura seed), 2 ml of adrenaline, 1:1000 and 2mg of nor-adrenaline (if blood pressure is low) to counter act heart block.

Postmortem finding:- Postmortem hemorrhage and sign of gastrointestinal irritation have been found. General aspect of gastrointestinal was congested and of a deep red color. Several irregular fragments like millet seeds were found scattered in the mucosal folds of duodenum. Generalized engorgement of veins and sub-endocardial acchymoses. Yellow oleander revisits

putrefaction and can be detected even years after death in exhumed putrified bodies. The lenia was congested.

Medicolegal aspect

- a. Occasionally suicidal purpose the root and the seed are often taken.
- b. Homicidal either mixed with water or oil.
- c. On account of dowry problem are matrimonial mishaps they are also used For procuring criminal abortion.
- d. Powdered seed were given to be administered to her husband as love filter (Increases attraction between the giver and taker).
- e. Cattle poisoning occur when the seeds are crushed mixed with fodder and fed to the animal.
- f. Milky latex found in every part of plant. Glycosides in degree of 0.2 gm/kg intramuscular given in Cat died within two hour.

The seeds are also commonly used for cattle poison. Accidental poisoning occurs in the children by eating the flowers. This is a plant belonging to apocyanaceae and is widely cultivated as an ornamental shrub in garden in the Plains in India.



CONCLUSION

Thevetia nerifolia is used only as external application. The root- stem bark and leaf used various activities light like anti-inflammatory, anti-microbial, Anti-helmenthic, cardiac stimulant and convulsant. Their fruit and root bark are very toxic and harmful for internal use. More study are needed the traditional use of the plant and the subsequent action of activity and the mechanism of action.

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