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### Cardiotoxic Plants in India

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Poisoning is significant global health problem ranking 45<sup>th</sup> in total death worldwide. According to WHO data, in 2012 an estimated 193,460 people died worldwide from unintentional poisoning. Of these deaths, 84% occurred in low- and middle-income countries. The incidence of poisoning in India is among highest in the world. It is estimated that more than 50,000 people die every year from toxic exposure. The highest incidence of poisoning is caused by pesticides in all regions. Poisoning due to plant exposure occurs in 1.7-3% of cases, most commonly in southern states of India with mortality rate of around 10-12%.

There are more than 4000 species of medicinal plants growing as shrubs, herbs and trees in India; many of which are poisonous. Suicide in India is very common as poison can be easily obtained and many poisonous plants grow wild e.g., *datura*, *oleander*, *cerbera odollam*, *nux vomica* etc.

Cardiotoxic plants as a source of cardiac glycosides, acute poisoning of which resembles digitalis toxicity is most commonly reported from southern states of India. Various cardiotoxic plants of epidemiological importance are *cerbera odolla*, *Nerium oleander*, *Cascabela thevetia*, *Aconite*, *Digitalis sp*, *Convallaria majalis*, *Cryptosgtega grandifora*, *Calotropis gigantea* etc.,

Out of these plants, *Cerbera* and *Oleander* have caused highest incidence of suicidal poisoning. *Cerbera odollam* itself is responsible for more 50% of plant and 10% of overall poisoning in rural area of southern states. This plant has caused more 500 deaths from 1989 to 1999 in kerala, a state in south India and name as suicide tree in kerala.

Mechanism of action of plant derived cardiac glycosides, clinical features, complications, laboratory features, and management is very similar to that for digoxin poisoning. Management is supportive as there is no antidote (anti-digoxin Fab) available in India due to cost issue.

There is potential scope for research on this area in India along with standardization of the treatment and preventive strategy.