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PHYTOTOXINS IN FORENSIC MEDICINE AND INVESTIGATIONS: AN OUTLOOK TOWARDS THE INCREASING RELEVANCE

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ABSTRACT

The phytochemicals derived from plants are used in forensic sciences and emerge as an innovative frontier which provides extraordinary insights into mysteries of nature using the cutting-edge technique of phytotoxin analyses. The work explores the connection between forensic science and phytochemistry which highlights the phytochemical details of toxic plant secondary metabolites that serve as a valuable marker for forensic investigations, as the plants contain bioactive substances more often benefiting to the health of individuals, but in some cases produce serious adverse effects. The review offers an in-depth understanding of phytochemicals in forensic investigations to detect these criminal offences including murder by poisoning and suicides. Toxins of plant-origin are secondary metabolites of natural origin which pose a threat to the health of humans and animals and the plant toxins play a major role in forensic investigations by permitting detailed elucidation and analyses of herbal toxins, and biotechnology and molecular tools can detect specific toxins, as well can detect specific poisonous, which uses a probe binding with specific receptors molecules. Forensic toxicology is a hybridization of contemporary analytical chemistry and fundamental toxicology and their implementation within the legal framework to answer questions that arise during judicial proceedings linked to intoxication. More researched are needed to deeply implemented to understand the significance of medicinal plants in forensic investigations to detect the criminal offenses. Additionally, to provides a deep understanding of chemical substances that can impact human life positively or negatively with different doses as well as identifying the optimal or overdose concentrations for either treatments or poisonous effects using recent biotechnological approaches. So, the present review summarises the major phytotoxins and their relevance in forensic medicine and investigations.

KEYWORDS: *. Forensic medicine, forensic pathology, forensic toxicology, phytotoxins*

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