



Advances in Forensic Science

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Editorial

This memorial issue of the proceedings of Journal of Forensic Toxicology and Pharmacology is brought out in recognition of his rich contributions and as a tribute to this pioneer. It includes eleven topics covering a wide spectrum of activities related to Forensic Toxicology, Anthropology and Analytical Chemistry research.

An immense research over recent years proved that the synthetic drug Fentanyl was more potent than morphine. Several cases identified with this synthetic drug and initiated a method called Biocompatible Solid-Phase MicroExtraction (BioSPME) to analyze the presence of fentanyl in blood of a victim. A uniform toxicological analysis has to perform in the death investigation to ensure the percentage of drug present in the body.

The phenomena of Gold nanoparticles (Au-NPs) have different potential biological applications but haven't completely proved whether Gold nanoparticles have toxicity in vitro and in vivo. Study has been done in this present scenario was that the nanoparticles evaluated in human cells as well as in rats. Further toxicological studies of Gold nanoparticles were maintained and evaluated by histopathological examination.

It is a primitive study that, the methanolic extract of the selected marine organism *Zoanthus* sp. was subjected to acute toxicity studies using standard procedures on albino mice. The acute toxicity studies were performed for the methanol extract of the selected sponge material on wistar rats since the methanol extract showed comparatively better hypoglycaemic activity.

Nanoparticles technology is a vast growing area, which takes numerous facts that small size particles dramatically increases the specific surface area, these will corresponds to the larger particle size

with different properties. Fullerene and its derivatives showed a profound difference in cytotoxicity in cell culture. C60 nanoparticles cause cytotoxicity due to direct ROS generating effect that caused cell membrane damage which leads to death.

Marine micro algae or marine cyanobacteria in particular are the most significant group of organism shows that 6% of them are cytotoxic to cancer cell lines.

Some of the biological as well as chemical agents effectively cause very dangerous effects on human health through different ways. From many more decades the herbal or ayurvedic medicine is considered as a biological and safe in use for the treatment for toxicities. Several studies has proven that the plant *Silybummarianum* have antitoxic agents.

Present study shows challenging aspects on postmortem to identify the illicit substances in human bodies. It was found that the case history identified 42% cocaine, 76% cannabis, 10% phencyclidine and 33% opioid analgesics through the toxicology tests in blood, urine, brain and hair. In human postmortem cases the ability of case history as well as toxicology from various sources to evaluate the presence and absence of the test sensitivity and specificity of a screening test.

The area of forensic drug chemistry involves in the identification and characterization of emerging new psychoactive drugs which can be daunting with the toxicology of their preexisting knowledge of particular drug information identity is often needed to implement in order to proceeding with the targeted screening approaches. The chemistry and reactive effects of entire psychoactive drugs with the toxicology study information need to be maintained in order screen the victim samples with the standard information. As these drugs was emerging vastly due to the availability and the systematic chemical reactions involved in it. Some recent emerging drugs like fentanyl analogs (yaba), GHB (gamma hydroxyl butyrate) manufacturing elicit process involves ease to process and their distribution globally.

Criminalities dealing with the application of medicine to know the facts in civil or criminal activities referred as Forensic medicine. It involves in the process of dying, the root cause of death and the post-death phenomena. The disciplines involved in this forensic medicine are analytical chemistry, Pharmacology and clinical chemistry to aid the medical as well as legal investigation of death, drug use and the poisoning effect caused by the drug.

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