



Research Related to Forensic Toxicology and Environmental Hazard

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Editorial

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Abstract

Pharmacology that deals with the ideal characteristics features of poison their modes of response their modes of response when in touch with the organism and the clinical and biochemical uses of drugs the pharmacology and toxicology intersect with each in their responses to produce adverse effect. Forensic toxicologist focuses on the medico-legal aspects of chemical and toxic injury on the living beings which has the potential to threat natural environment the use of aldrin banned but still it is found in the environment which gets bio transformed to diealdrin (metabolite) of aldrin and causes aldrin toxicity.

Keywords: Therapeutic Index; Toxicology; Pharmacology; Pharmacopeia; Lethal Dose; Lethal concentration

Introduction

Toxicology is the branch of bio forensics that deals with the symptoms, adverse effect of poison drugs to living organisms with the out viewing the postmortem response of the addicted poison or drug addicted body their treatment their exposure their detection whereas toxicants and toxins both have major distributive differences toxins is mainly produced by the living organism in response to poisonous substance whereas toxicants if the foreign material extract from the manmade or human semi synthetic in nature which leads to ill biological process of the person and together this toxicants and toxin leads to become poison at a poison or poisoning substances at a point poisoning inherently lead to damage the psychological process of the human anatomy's the functioning of the accurate bio concentration of the chemicals produces ill effects in short interval of time. Whereas the pharmacopeia is a patent poison or a term through which gene related factors through which is a factor which decides for any poison to its adverse potential for

making any substance a poison is decided by the evaluation of the dose response which is in graded dose response in an individual or the quantal dose response graded response is given to a population which results in greater magnitude of response as dose increased and in the quantal dose response relationship the percentage of the population affected uplift as the dose is raised this dose relationship gives a way to the broad way which is lethal dose ld_{50} which is defined as the measure of the amount of the substance needed to kill 50% of the tested population it measure the acute toxicity of the substances scientist mainly perform experiments on rats to test the animals basically the formula lies that that amount of chemical administered/100gm for small animal and in kgs for large animals they are entered through many routes whereas dermal injections are preferred (lc_{50}) lethal concentration stands for the concentration of chemical in air which can kill 50% of tested animals [1-5]. These studies contribute to therapeutic dosage which determines any substance to be a healer or the toxic poison the therapeutic dosage is the ratio that compares as the blood concentration

at which drug become toxic and the concentration at which it become effective the larger the therapeutic the safer is the drugs if the TI is smaller than which is the difference between the two concentration is small the drug toxicity appears and produces sign and symptoms on the body [6,7]. Therapeutic ratio is the amount of drug that causes the therapeutic effect to the amount that causes toxicity if TI is <10 it is poison. The primary concern of forensic toxicologist is not the legal outcome of the poison or toxic investigation or technology used to encounter it but lies on the ways of obtainment and interpretation of results for example hexa chloro hexahedra dimethano naphthalene an insecticide which belongs to organochlorine pesticides metabolized into dieldrin which requires a detailed investigation of important factors sources analysis and chemical purity concentration to confirm the diagnosis of aldrin poison. In the case of poison analysis a blood sample of approximately 05ml requires to screen and confirm toxic analytes that elaborate the profile of substances of the toxicologist poison [8]. Poisoning can be intentional which include homicidal and suicidal (survival and fatal) and occupational and unintentional which is survival with side effects the symptoms which in corporate mental confusion, poor eyesight and inability to read red warning sung leads to accidental death. In 2016 Arizona department of health sciences uprated dihedron concentration in the space crawl dirt in the concentration of 0.88 ppm which is higher than the permissible limit which can cause inhalation problems of respiratory diseases [9]. The news in japan 2015 reported dumping of whale meat which is imported from Norway and the consistency of dieledrin is higher than safety limits of 0.1ppm. Bhadouria et al stated in his study about the use of aldrin and detected 0.1173ppm of dielderin.

Aldrin is obtained by Diels-alder reaction which has empirical formula $C_{12}H_8Cl_6$ AND Molecular mass 364090 G/ML. It was introduced in 1950 and WHO classied it highly toxic hazardous class 2B chemical and listed in persistent organic pollutant. Aldrin is found to be hazardous occupation and disturbing ecosystem anthropogenic sources the aldrin before is used as seed dressing against soil insect and vegetable insects the uses of dieldrin lies in the termite eradication against vector diseases it is bio accumulative in nature was banned long ago but anthropogenic leads to increase the permissible concentrations of dihedron which owes high lipophilic [10,11], low volatility resistive towards bio degradation of physical and chemical process. Scientist has monitored impact of aldrin and diealdrin in tracle for in nature aldin gets bio transformed and accumulated in the form of dieldrin. Whereas aldrin is ubiquitous toxic in nature inhibit GABBA receptor which is gabber tert-butyl-bicyclo phosphorothionate have binding site which disturb the gaba energetic signal prevent the chloride inflation into gaba receptor ionosphereit facilities neurotransmitter actions and causes sluggishness, carcinogenic affect, anemia and

liver toxicity aldrin have long half human life in body gets accumulate in brain and liver plays a party in the metabolism as they excrete xenobiotic divalent oxygen plays a part in the metabollism involves oxidative enzymes aldrin when undergoes conversion to dihedron by peroxidation process.

The median tolerance limit for fish when in contact with aldrin concentration is 0.89pb to 0.018ppm at 24h singh, et al. stated that increase level of magnesium and phosphate leads to diminish the entry of calcium which damages the gills of fishes when exposed to aldrin [12]. Aldrin affects the growth of fishes and zebras they increase the level of MDA and damage of dopamine and causes oxidative stress in fishes and zebras lipidosis occur in the exposure large amount of aldrin found in the hypothalamus and cerebellum portion of the brain.

The estimated lethal dose of human being 5g in blood concentrations increases to 20ug/100ml which is intoxicated with aldrin.

Conclusion

Aldrin and dialdrin they have affects food chain the mechanism of effects can be with in depth studies by collecting reportive data we have founded biologic gap in the research on aldrin and dieldrin toxicity now days there can be found effective relationship between environmental exposure and public health tools to find and use information are rapidly improving aldrin and dieldrin now being used as a review in toxicology to loop out environmental hazard.

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