

Special Forensic Cases and Ways to approach Conclusion by New Techniques GC-MS-MS, LC-MS-MS, EDX-8000, Ion-Chromatography, ICP-MS, UV-Visible Spectrometry. An Indian Scenario

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Abstract

In Forensic Laboratory Rajasthan, India different types of cases are received in Toxicology Section where the visceral content comprising of Piece of Stomach, Intestine, Liver, Spleen, Kidney, Lungs, Heart, Brain, Blood sample, Urine Sample, Skin piece (injection site or site of Bite) etc is being received for examination. All types of poisons is grouped into metallic poisons, ethyl - methyl alcohol, cyanide, alkaloids, barbiturates, tranquilizers and insecticides are often checked. By far if we go on to see the statistics data In India most of the poisoning cases found positive for Aluminium phosphide and Insecticides, Some cases are of drugs poisoning where the drugs are being used for suicide, murder purpose or due accidental reasons viz. negligence use of drugs during treatment by medical doctors. A scientist has to think about all related aspect along-with analysis to assist the cases to reach at concrete result that help get justice. The wide range of cases of poisoning specifies from cyanide, nitrite, alcohol, insecticide, carbon-monoxide, phosphine, snake venom, medicinal drugs for different purposes Robbery, Murder, Homicide, Suicide etc are quite common. After performing separation and extraction methodologies separation of organic and inorganic poisons took place. The confirmation of poison was done using GC-MS-MS, LC-MS-MS and UV-Visible Spectrometry for organic poisons. For inorganic poisons the use of Inductively Coupled Plasma with Mass Spectrophotometer and EDX-8000 and Ion chromatography techniques are proved highly significant. EDX-8000 technique is useful in detection of Gun Shot residues in traces. Several cases are sorted out of it and establishing the presence of gunshot residues on the hands of criminals solves typical mysteries. Latest changing scenario of crime needs up-gradation in techniques so that they can be used to establish strong evidences in Court of Law

Received date: 09 February, 2022

Accepted date: 21 February, 2022

Published date: 30 March, 2022

Biography

Dr Rakhi Khanna is presently as Deputy Director Training at State Forensic Science Laboratory, Jaipur, Rajasthan, India she is President of Internal Complaint committee of Prevention, Prohibition and Redressal Act Against Sexual Harassment of Women at Workplace, 2013 and She did her PhD in science specialized in chemistry on Topic "Gas-Chromatography Mass-Spectrometry Studies of some Modern Insecticides in Postmortem Tissues and Body-

Fluids, in 2009 from Department of Chemistry, University Of Rajasthan, Jaipur, India and Working experience of 22 years as Forensic Scientist cum Toxicologist from 1998 and have experience of analyses of large number of cases. approx. 20,000 cases and 60000 exhibits are reported. She has presented many research papers in many journals and conference proceedings She is an Editorial- member to review papers in many journals of Repute