INVITED SPEAKERS

Dr. Lotte Hogberg is a highly experienced pharmacist with a strong background in pharmaceutical sciences and clinical pharmacology and toxicology. She has expertise in Clinical Pharmacology, Pharmacovigilance, Acute Clinical and Medical Toxicology, and Critical Care in poisoning. Dr. Hogberg is skilled in research in Poisons Control and treatment optimization, focusing on antidotes, casualty management, and treatment guidelines. She is Chair of the National Antidote preparedness group in Denmark and currently works at The Danish Emergency Management Agency's division of Chemical Operations, focusing on CBRNE and hazmat. Dr. Hoegberg holds a postgraduate degree in Medical Toxicology, which enhances her proficiency in managing and mitigating toxic substances. She is actively involved in the international scientific community, serving as EAPCCT Chair of the Scientific and Meetings Committee and Chair and Co-Chair of various international research workgroups. Her commitment to improving clinical practices and patient care through rigorous research and knowledge dissemination is evident in her leadership in international research initiatives.

PLENARY: Chemical Preparedness and Response to Hazmat Incidents

The release of hazardous chemicals leads to a multi-disciplinary coordination and collaboration. Details of the incident, intelligence, and recognition of symptoms adds to the evidence of the specific chemical hazard. Depending on the number of casualties and the chemical substance(s) included in the incident, the emergency response may be challenged. In mass casualties crowd control is central as the arrival of a high number of potentially contaminated patients, and patients expecting to receive high-level treatment immediately, put the health care system at risk of a collapse that may increase the incidence of morbitity and possibly the rate of mortality.

Major and sub-sectorial preparedness plans, including a description of the coordination and collaboration, the patient flow, the treatment demands and possibilities pre-hospital, during transport and in-hospital, antidote avaiability, as well as available ressources (equipment and staff) are paramount for handling the incident the best possible way. Preparedness plan execises are important and should be held both in subsectional and muliti-disciplinary setting, to increase the knowledge of when and how to execute the preparedness plan in response to a hazmat incident with a toxic chemical substance.

This plenary talk will introduce a principal chemical incident response approach and examples for the audience to adapt to their home country setting.

INVITED SPEAKERS

SYMPOSIUM - Implications of in vitro and Human Volunteer Studies for Decontamination of Overdose Patients

When using activated charcoal as gastrointestinal decontamination in human poisoning, information of its maximum adsorption capacity for the specific toxic substance ingested theoretically permits calculation of an adequate activated charcoal dose assuming that the amount of drug ingested is known. Maximum adsorption capacity studies are in-vitro studies performed in the laboratory using equipment and methods mimiking the human gastrointestinal tract. Direct extrapolation to human settings is challenging as the ideal in-vitro environment is replaced with the varying environment of the human gastointestinal tract. Multiple factors may interfere with the adsorption capacity of the activated charcoal to form a complex with a toxic substance. Co-ingestions of food and beverage may change gastric pH compared to laboratory settings and reduce the adsorption capacity of the activated charcoal, but may also reduce gatric motility increasing the contact time between the toxic substance and the activated charcoal and promoting the complex formation and thereby reduced absorption of the toxic compound. The development of pharmaceutical preparations designed to increase treatment profile and patient compliace further challenge the risk assesment in the poison centre guidelines for the poisoned patients. A range of pharmaceutical preparations are prone to form gastric pharmacobezoars, durable for a long period of time and difficult to break or eliminate.

Through in vitro studies, designed to explore the limits of activated charcoal, and simulated overdose studies in human volunteers however increase our knowledge on the mechanism of action and efficacy of activated charcoal and may aid in the clinical discision when to incude activated charcoal in the treatment of a poisoned patient.