

Abstracts

of the exposure to low doses of OPWA requires lower detection limits (0.1-1 ng/ml).

Optimal objects for the retrospective analysis of OPWA in an organism are long-lived blood protein adducts. We developed a procedure for revealing an exposure to soman, involving reactivation of inhibited blood butyryl choline esterase with fluoride ion to liberate soman and its subsequent combined SPME-GCMS analysis. The procedure allows determination of total blood soman and separate determination of reactivated and intact soman. Analysis for total blood soman is used to reveal an exposure to this agent. Separate determination of reactivated and intact soman provides a valuable tool for toxicokinetic research.

The sensitivity of the determination is no worse than 0.5 ng/ml. The average total analysis time is 1.5 h. The procedure was approved in experiments with human blood *in vitro* and with rat blood *in vivo*.

53. EPIDEMIOLOGY OF MULTIRESTANT ACINETOBACTER INFECTIONS IN BULGARIA (6)

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Evolution of bacteria towards resistance to antimicrobial drugs, including these with multidrug resistance, is very important issue for hospital epidemiology in all over the world. There are many papers about an increasing number of *Acinetobacter baumannii* blood stream and other type of infections in patients at military medical facilities in the Iraq / Kuwait region and in Afganistan during Operation Enduring Freedom /OEF /. It has now become also a one of the major cause of hospital acquired infections in Bulgaria which due to its remarkable propensity to rapidly acquire resistance determinants to a wide range of antimicrobial drugs.

According to the data obtained in Bulgaria, it can be concluded that the majority of the *A.baumannii* isolates was strikingly resistant, including the 3rd generation of cephalosporines, quinolones and also carbapenems, in the last years. Different methods / phenotypical and molecular methods, including PCR/ for a multidrug *A.baumannii* investigation and its clonality determination are needed, especially when the strains are not epidemiologically related.

54. THE CBRNE THREAT NEEDS NEW DEDICATED ANALYSERS (5)

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INTRODUCTION

After the 9-11 attack by terrorists several governments realized their vulnerability towards creative asymmetric attacks. Due to increasing

complexity of our society we create more vulnerability towards terror attacks. More chemical substances than we realize can be misused to destabilize our modern society.

Recently aircraft passengers were confronted with new regulations, which limit the amount of fluid, which a passenger can bring on board with hand luggage. How far should we go limiting the allowance to bring liquids and substances on board? It indicates that we need new analytic instruments for screening the safety of luggage in all types of transport.

STUDY DESIGN

An inventory was made of the present demand for safe transport and its vulnerability to terror attacks. Also the safety and safety awareness in public buildings, offices and industrial complexes was assessed.

Knowing the demand for a certain safety level, an inventory was made to identify analytical equipment, which can be used to check passengers and luggage on possible threats. The same can be used for protecting public areas, offices and industrial complexes.

RESULTS AND DISCUSSION

It is amazing how some governments, financially driven, underestimate the consequences of CBRNE incidences and disasters. Both threats due to release of dangerous substances just by accident and deliberate abuse of chemicals and/or biologicals by terror organizations is underestimated. Financial rationales are often the cause that the preparedness is less than technically could be possible.

Still some commercial companies realize the importance of safety and preparedness towards terror attacks and take their precautions. Several detection systems are now under development and a new market of safety devices comes into existence.

CONCLUSION

Key question is how far we would like to go with defending us with technical devices against potential terror attacks. Also the design of buildings, transport vehicles and industrial complexes can limit the risk on CBRNE incidences.

Key words: Industrial dangerous goods, disaster plan, terrorism, transport, infrastructure, knock-on effect

55. NAVIRCEPT – NUCLEIC ACID-BASED ANTI-VIRAL PROJECT (14)

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Vaccines are generally considered to be the most effective countermeasures to bacterial and viral diseases, however, licensed vaccines against many disease agents are either not available or their efficacies have not been demonstrated. Vaccines are generally agent specific in terms of treatment spectrum and are subject to defeat through natural mutation or through directed efforts.

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With respect to viral therapeutics, one of the major limitations associated with antiviral drugs is acquired drug resistance caused by antigenic shift or drift. A number of next-generation prophylactic and/or therapeutic measures are on the horizon. Of these, nucleic acid-based drugs are showing great antiviral potential.

These drugs elicit long-lasting, broad spectrum protective immune responses, especially to respiratory viral pathogens. The Nucleic Acid-Based Antiviral (NaVirCept) project provides the opportunity to demonstrate the effectiveness of novel medical countermeasures against military-significant endemic and other viral threat agents.

This project expands existing DRDC drug delivery capability development, in the form of proprietary liposome intellectual property, by coupling it with leading-edge nucleic acid-based technology to deliver effective medical countermeasures that will protect deployed personnel and the warfighter against a spectrum of viral disease agents.

The technology pathway will offer a means to combat emerging viral diseases or modified threat agents such as the bird flu or reconstructed Spanish flu without going down the laborious, time-consuming and expensive paths to develop countermeasures for each new and/or emerging viral disease organism.

56. DUAL-USE THREAT ASSESSMENT FRAMEWORK - AN ATTEMPT TO QUANTIFY THE RISK (8)

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Advances in the biosciences over the past decade have been rapid and transformative. While these advances offer significant benefit to society, they also provide very significant challenges in terms of security. Concerns over misuse and/or accidental use/release (dual use) although not new, are now being viewed through the security lens.

There is a wide-spread view that public or private sector scientists, supported through investments by pharmaceutical, environmental and agricultural interests working in the fields that comprise biotechnology, possess the ability to assess the implications of their own work and work within a regime of self-control that is for the most part self-governing (codes of practice). On the other end of the spectrum are those that would codify or legislative control. All this is being done in the absence of a mechanism for quantifying the threat.

This presentation will discuss the development of an assessment framework that addresses both actual and potential threats. The framework was developed based on available intelligence and other open source information along with interviews with those persons familiar with the concept of dual use and the multiple, sometimes competing agendas of a

variety of interest groups. The framework will help to bring some clarity to the discussion and at the same time, help to inform those that are positioned to respond to the threat.

57. INTELLIGENCE AND SECURITY STANDARDS ON INDUSTRIAL FACILITIES PROTECTION IN CASE OF TERRORISM AND MILITARY ATTACK (6)

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Industrial facilities, which use toxic chemicals in their production processes, are tempting targets for military and terrorist strategists. They know that these facilities when attacked could produce effects not realizable with conventional weapons. The resulting legal, policy and political consequences would be minimal as compared to that of disseminating toxic chemicals or chemical agents as weapons on enemy territory. At this time there is no clear definition of the legality or illegality of these types of actions used against specific industrial targets for the purpose of mass destruction or disruption.

Without clearly defined international regulations covering these actions, we must depend solely on national defense systems. Not only are these regulations not defined, there are no implementation tools, which would be available if the various treaties (CWC/BWC) etc., were able to incorporate needed legislative action. Consequently we must depend on and put into practice defense security standards for industrial facilities for protection against both possible terrorist and military attacks.

Emergency responses to incidents involving violent criminals and terrorists are extremely dangerous. Incidents involving weapons of mass destruction, firearms, and hazardous materials have resulted in the injury and death of many firefighters, police officers and medical personnel. We wish to intend display place and role of intelligence and counter intelligence system to prevention potential target and military attack.

Security needs to be incorporated into the public safety culture and it must become the routine for how we operate. The recognition and identification process is an important skill that needs continual refinement. The use of transportation or facility paperwork assists in recognizing what potential hazards. A key factor in the successful command and management of a hazmat incident or terrorism event is the ability of public safety agencies to function as a team.

A terrorism event or hazmat crime brings multiple agencies together, but their integration needs to be seamless. Response to these incidents presents acute and long term health risks to public safety personnel. There are many factors involved in the selection and use of protective equipment. New threats and technology are emerging. Then we will describe the specific situation by participating in joint-agency



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