
Personal view

INFECTIOUS DISEASES, BIOLOGICAL ARMS, BIOTERRORISM, A MAJOR CHALLENGE FOR THE CONTEMPORARY CIVIL SOCIETY

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Abstract

Biological arms and bioterrorism represent a major challenge for the public health, the Health Services in the Infectious Diseases areal and Intelligence Services. These institutions are in charge with the surveillance and application of the law. The confrontation (the interface) is based between unicells microorganisms (viruses, bacteria, parasites, fungus, vibriions) and macroorganisms (humans, animals, plants and others biological structures). The Cyberoterrorism and the Globalization have a major position in the next future in increasing the risc for bioterrorism. A recently declassified report in USA makes the conclusion that the infectious diseases are not only a Public Health problem but also one of National Security

Keywords: Biological arms, Bioterrorism, Cyberoterrorism, Globalization

Rezumat

Bolile infecțioase, armele biologice, bioterorismul - provocare majoră a societății civile contemporane

Armele biologice și bioterorismul reprezintă provocări majore pentru Societatea Civilă, Sănătatea Publică, Asistența Medicală și Structurile Informativ, care sunt investite cu supravegherea evenimentelor și aplicarea legii. Confruntarea se realizează între microorganismele unicelulare (virusuri, bacterii, paraziți, fungi, vibrioni și macroorganismele pluricelulare (oameni, animale, plante și alte structuri biologice) Cyberterorismul și globalizarea amplifică major riscul bioterorismului în viitorul apropiat. Un raport declassificat recent în SUA, concluzionează că bolile infecțioase nu sunt numai o problemă de sănătate publică, ci și una de securitate națională.

Cuvinte-cheie: boli infecțioase, arme biologice, bioterorism, globalizare

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„The infections are one of the oldest fights on the planet”, we may even call it a war; the origin of many of the disease causing microorganisms is still unknown. Regardless of this the medical archeology proves that the calcified marine creatures, in the remains of predators, the mummies contain fossilized microorganisms. The human history shows that each century has its own emerging pathogens of important diseases (1).

The infectious diseases epidemiological dynamics, the utilization of the pathogens as biological arms and bioterrorism represent the association that generates a major challenge for the Public Health and the contemporary Health Services in the infectious diseases areal.

The epidemiological evolution of the Acute Severe Respiratory Syndrome, (SARS), Avian Influenza (H5N1), the bioterrorist attack with *Bacillus anthracis* spores, USA 2001 and the continuing pressure of the threat of bioterrorist attacks are convincing proofs of the dimensions of the challenge for the civil society, public health and medical services, the intelligence institutions and the law enforcement are empowered to respond.

The expressing of the present objective of the States that reject in major terrorism, including biological terrorism "the Prevention and response of the civil society to the bioterrorist attack" it is a synthetic expression of the politics for the biological arms and bioterrorism.

The infectious diseases represent the clinical expression of a „unitary concept” (2) regarding the biological dual relationships - natural or artificial - between the live entities (an unique situation between mass destruction arms: explosives, nuclear, chemical and biological) relationships that define the historical, dynamic concept of "Infectious Diseases, Biological arms and Bioterrorism"

Unicellular microorganisms (viruses, bacteria, parasites, fungi, vibriions) and pluricellular microorganisms, with organic structures (humans, animals, plants and other live biological structures) develop relationships that are reflected in the Public Health approach on the matter. The medical services for the humans and for the animals have an important place in the scientific medical research (human and veterinary) in Bioscience and Biotechnology.

The concept „*Infectious Diseases. Biological arms and Bioterrorism*" - an unitary, dynamic concept that was influenced by the evolution of the infectious diseases, extended to the biological arms, produced by specific industrial technology (by the discovery of pathogens and etiological agents of the infectious diseases in the XIX century Louis Pasteur, Robert Koch) - is associated with bioterrorism (a mass psychological manifestation), agroterrorism and cyberterrorism.

Being contemporary with cyberterrorism (a form of technical terrorism with attack on the informatically networks, on the electronically technology in

general, from which the medical system benefits also), Bioscience and biotechnology is a major risk amplifier for the bioterrorism in the third millennium.

Throughout history the natural epidemics have caused a much greater number of casualties than the wars: almost a quarter of the Europe's population died during the great plague (the bubonic plague in the 14th century (3), smallpox, measles, influenza, typhus, bubonic pest/plague killed over 95% of the precolumbian native Americans and the influenza pandemic (H5N1) 1918-1919 killed over 21 million people, most of them young adults, more than the fire-arms in the First World War (3). Regardless of the breakthroughs in the means to decrease the infectious diseases morbidity in the USA there are still 150,000 infectious diseases related deaths. (3) Now the prevention of major epidemics represent a greater challenge than before because of the globalisation, of travelling and commerce, of the greater population concentration, of living in great proximity with animals whose diseases some of them, can be transmitted to the humans (3).

To the threat of the natural transmitted infectious diseases the bioterrorist threats are added. (2)

One of the particularities of the biological arms is that they are part of the living organisms, a part from the other arms of mass destruction (explosive, nuclear, chemical), the biological arms (live forms of life) are an universal presence in the physical and biological environment on earth and in cosmos (the common etiological fond)?

In these conditions, „the dual existence" of the unicellular and pluricellular forms of life, there are either balanced relationships or biological imbalance that implicate the health and the quality of life and lead to individual or group epidemiological implications, including bioterrorism.

The biological interaction between the 2 living organisms are characterized by clinical and epidemiological manifestations, laboratory data and findings, markers of the biological evolution that collected and analysed together with the clinical surveillance form the necessary database for the management of, as the case applies, of a natural and/or a bioterrorist attack.

A recently declassified report, made by the National Intelligence Council for the Central Intelligence Agency (CIA) makes the following conclusion: „The infectious diseases are not only a public Health problem but also one of National Security" (4), the USA population is vulnerable to the emerging and also to the reemerging infectious diseases (4).

In 1993, the U.S. Congress Office of Technology estimated that the dissemination of 100 kg of anthrax spores over the human settlement of Washington DC would produce between 130,000 and 3 millions deaths and could be as lethal as the hydrogen bomb (3)

„The Sewerdlowsk Accident (USSR. 1979)" with *Bacillus anthracis* spores, insufficiently known, and the bioterrorist attack with *Bacillus anthracis* spores (USA 2001) as well as the terrorist threats to the use of biological arms are sufficient proofs that support the concept of major challenges that the Infectious diseases (as a natural evolution) and biological arms, as a provoked evolution and bioterrorism, with mass psychological manifestations into the civil society.

The information made available on the internet regarding the fabrication of biological arms is a source of technical support for those that are practicing or are preparing to practice bioterrorism. It is necessary that the governments through the Public Health structures, together with the Intelligence structures and that of law Enforcement to action technically and intelligently in the event of a epidemic, regardless if it is a natural or provoked one, a difference difficult to made in the first hours but otherwise decisive in regard with the following evolution. The exercises "Dark Winter" (Small pox) and Topoff (Pest) (3) Bioex '09: „The natural history of the genus *Vibrio* induced infection" (2009) (6) are three exercises made by the USA, Romania that draw attention to necessity to amplify the activity of prevention and response to the bioterrorist attack on the civil society in its entirety.

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