

Medical Care to Children in a War Region

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Introduction: Field hospitals of the Russian Center of Disaster Medicine were formed on the basis of children's surgeons and anesthesiologists. Later, a brigade of pediatrics was formed, and, at last, a children's field hospital (CFH) was founded, and began to work in the Chechen Republic.

Methods: The structure of CFH included: (1) A diagnostic block containing x-ray equipment, ultrasound scanner, endoscopes, and a clinical laboratory; (2) an operational block; (3) wards for 50 patients; (4) a reanimation department; and (5) a consulting department. The medicines, as well as electricity and oxygen, were provided independently. Communication was carried out using a satellite antenna. The children's doctors included surgeons, pediatricians, neuropathologists, anesthesiologists, and endoscopic support. Among the children's surgeons were experts in orthopedics, combustology, urology, thoracic surgery, and neurosurgery.

Results: Within a year of work (April 2001–April 2002), doctors at the hospital consulted 32,300 outpatients, treated 2,645 inpatients, and performed 2,054 surgical operations. Special organization of the surgery was necessary in the cases of mass delivery of the injured. For example, when 36 wounded were delivered at the same time to the hospital after a bomb explosion. A total of 339 patients were treated in reanimation; 44 died. Sixty-four telemedicine consultations for the most difficult patients were arranged with the help of the best Russian clinics of Moscow and the North Caucasus region. Seventy-three patients were transported to specialized hospitals.

Conclusion: Modern equipment for diagnosis and treatment, the high qualification of the medical staff in the CFH, and telemedicine consultation made it possible to provide specialized medical care in the war region.

Keywords: bomb; Chechen Republic; children; explosion; field hospital; reanimation; referrals; Russian; surgery; telemedicine; war

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The System of Anti-Epidemic Measures Against Biological Acts of Terrorism

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Nowadays, we are anxious about the danger of biological terrorism. Thus, the arrangement and undertaking of counteraction measures to protect the population effectively against bioterrorism is of great importance. Research by the Disaster Medicine Services, the working conditions in biological emergencies, and the experience of defeating various epidemics demonstrate that in each country and in each emergency, the health services will face the following concrete tasks:

1. Timely recognition of the fact that biological components were used;

2. Finding out what kind of component was used, the size of the infected territory, and the number of victims;
3. Isolation of the epidemic center;
4. Implementation of urgent anti-epidemic, medical, and evacuation measures at the epidemic site;
5. Implementation of the whole range of sanitary-epidemiological, medical, and evacuation measures to completely eliminate the consequences of the use of biological components.

The main role in eliminating the consequences of biological acts of terrorism requires the engagement of the specialized detachments of the State Sanitary and Epidemiological Service, which is the part of the Disaster Medicine Service of the Russian Ministry of Health. Disaster medicine centers and other medical institutions are responsible for providing medical help and evacuation of people. Infected patients are treated in local medical institutions, which are closest to the epidemic site. Special committees for counteracting the acts of biological terrorism generally manage the liquidation of the consequences of epidemic emergencies.

Keywords: detection; disaster medicine; epidemics; evacuation; isolation; liquidation; responses; terrorism, biological; treatment

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The United States Experience with Smallpox Vaccine: 2003

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The civilian and military experience with the smallpox vaccine will be presented, including complications, outcomes, and lessons learned.

Keywords: complications; experience; lessons learned; military; outcome; smallpox; vaccine

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Free Topics

Epidemiological Characteristics and Military Implications of Hemorrhagic Fever with Renal Syndrome in Croatia

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The aim of this study was to describe epidemiological characteristics of hemorrhagic fever with renal syndrome in Croatia, and to identify their military implications. The data from obligatory infectious diseases reports and notification of deaths due to infectious diseases were analyzed, along with the data on the epidemics of hemorrhagic fever with renal syndrome in Croatia, and then they were compared with data from this study.

During the period between 1987 and 2002, 555 cases of hemorrhagic fever with renal syndrome were recorded in Croatia, 160 (28.8%) of these among soldiers. The mortality rate was as high as 15.4% (mean = 1.1%; 6/555). The highest number of cases (317) were recorded during 2002.

The epidemic started during the winter, and the highest number of cases were recorded in the months of June and July (due to the increased activity of both animals and humans, acting as infection reservoirs and hosts). The epidemic spread throughout most of Croatia. The known natural foci of hemorrhagic fever with renal syndrome have been the Plitvice and Slunj areas, Dinara Mountain, Velika and Mala Kapela mountains, the Zagreb area (Velika Gorica and Jastrebarsko), the Gorski Kotar area (Ogulin, Delnice), west Slavonia, and the Novska area. The disease has not been recorded in the litoral area and the Adriatic islands. The disease was also recorded in the neighboring countries of Slovenia, Bosnia and Herzegovina, Serbia, and Montenegro. The identified causative agents include Dobrava and Puumala, which are viruses of the genus Hantavirus. Rodents, including *Clethrionomys glareolus* (bank vole), *Apodemus flavicollis* (yellow-necked field mouse), *Apodemus agrarius* (black-striped field mouse), and *Apodemus sylvaticus* (wood mouse), serve as the main reservoirs for the infection in Croatia. Typical biotypes of the infection in Croatia are deciduous woods. The 2002 epidemic confirmed the presumption that most of continental Croatia is a natural focus for hemorrhagic fever with renal syndrome.

The disease usually occurs sporadically; the epidemics frequently accompany armed conflicts. Thus, soldiers are the group at the highest risk in both war and peacetime conditions. Therefore, hemorrhagic fever with renal syndrome is an important disease from the viewpoint of military epidemiology.

Keywords: Croatia; epidemiological characteristics; hemorrhagic fever with renal syndrome; hosts; reservoirs

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Epidemiological Characteristics and Military Significance of Q-Fever in Croatia

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Q-fever is an acute, febrile, rickettsial infection spread all over the world. In Croatia, Q-fever poses a considerable and long-standing public health problem. The disease primarily involves certain animal species, which transmit it easily through various routes of exchange. Also, it is commonly spread through dust. Q-fever frequently is present as an enzootic among domestic animals, occurring sporadically in occupationally exposed individuals.

Over the last 10 years (1992–2001), 406 affected persons (40 per year on average) were recorded in Croatia. The real incidence probably exceeds the number of recorded cases because of the frequently mild clinical picture, absence of suspicion of the disease, and inadequate laboratory diagnostic testing. In recent years, epidemic outbreaks of Q-fever with a high number of affected individuals over a relatively small area were observed. Although the agent causing Q-fever replicates only in living cells, like sporogenic bacteria, it is highly resistant to unfavorable environmental conditions and to most of the widely used disinfectants. It can survive for a year in a desiccated biological material at a low temperature. It can also survive for a year and a half in sapless

tick feces, or for two years in an infected tick. In the soil, the agent remains infective for seven to nine months at 4–6 °C, and in water for three to 36 months.

Epidemiological data are of great diagnostic importance, because the disease is highly occupation related. Data on a person's stay in a known endemic area or on contact with domestic or wild animals, especially sheep or related animals during the period of lambing, are of utmost importance. However, considering the high agent resistance, transmission of the disease does not require direct human exposure to the infectious material.

Epidemic outbreaks of the disease can occur quite easily in army units staying outdoors, in camps or for training. As there is no routinely used vaccination for either humans or animals, and as Croatia has a very long border with Bosnia and Herzegovina, where there is a known problem of Q-fever in sheep, the occurrence of the disease cannot be completely prevented. While staying outdoors, army units should avoid endemic areas, sleeping in barns, and any contact with sheep. For the rest of the population, the risk of infection can be reduced by close cooperation with veterinary services and public health institutions. If an epidemic breaks out, control measures are limited to the elimination of the sources of the infection, monitoring of the exposed group, isolation of the affected, and antibiotic therapy.

Keywords: army; Croatia; epidemics; incidence; outdoors; prevention; Q-fever; resistance; transmission

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HIV/AIDS in Complex Emergencies: The Role of Military and Peacekeepers

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In recent years, wars and complex emergencies have become increasingly common, especially in least developed areas of the world, where the impact of HIV/AIDS has been most pronounced. There is growing evidence that wars and complex emergencies produce the type of conditions that can facilitate the spread of HIV/AIDS. Social disorganization, family disruption, displacement, breakdown of protection, and gender and sexual abuse are some of the contributing factors. In many parts of the world, military personnel and peacekeepers are especially at risk for HIV/AIDS, and also find themselves in social settings in which they also can contribute to the spread of HIV/AIDS. Both military personnel and peacekeepers nevertheless may be a potential force in the prevention of HIV/AIDS as well as other health problems. The ICMH and UNFPA are collaborating with sub-Saharan African countries to explore what new roles and capacities military and peacekeeping personnel could assume, and are using a combination of training and behavioral monitoring to develop a program with national military authorities and UNDPKO. In Sierra Leone and the DRC, there already is evidence that both groups of uniformed personnel are willing to and capable of playing an outreach role.

Keywords: behavioral monitoring; complex emergencies; contributing factors; HIV/AIDS; military; peacekeeping; prevention; sub-Saharan Africa; social disorganization; training; war