The semi-centenary of a prestigious medical unit: Military-Medical Research Center

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Abstract: The Military Medical Research Center (CCSMM) is a health research unit, subordinated to the Medical Directorate of the Ministry of National Defence. The overall objective is represented by conducting researches on the medical protection against weapons of mass destruction (ADM) that use chemical, biological, radiological and nuclear (CBRN) agents, on the accidents involving CBRN agents and on the military-medical expertise in the field. The CCSMM specialists develop methods and techniques for diagnosis, prophylaxis, treatment and recovery to optimize medical countermeasures during peace, war, or crisis situations. The activity is complementary to the one carried by the “Cantacuzino” National Military-Medical Institute for Research and Development which deals with the diagnosis of infectious diseases (microbiology and epidemiology) and the production of reagents and biological medicinal products for infectious diseases.

In conclusion, CCSMM is a unique healthcare unit nationwide, by its field of activity, having a tradition of over half a century, during which it has formed specialists and has had outstanding achievements in the medical protection against CBRN weapons and agents. There are prerequisites for the further development and visibility of the institution.

Keywords: military medical research, CBRN medical protection, biological warfare agents, bioterrorism, microbiology

INTRODUCTION

The Military Medical Research Center (CCSMM) is a health research unit, subordinated to the Medical Directorate of the Ministry of National Defence. The overall objective is represented by conducting researches on the medical protection against weapons of mass destruction (WMD) that use chemical, biological, radiological and nuclear (CBRN) agents, on the accidents involving CBRN agents and on the military-medical expertise in the field. The CCSMM specialists develop methods and techniques for diagnosis, prophylaxis, treatment and recovery to optimize medical countermeasures during peace, war, or crisis situations. The activity is complementary but distinct to the one carried by the “Cantacuzino” National Military-Medical Institute for Research and Development (INCDMM) which deals with the diagnosis of infectious diseases (microbiology and epidemiology) and the production of reagents and biological medicinal products for infectious diseases. It also cooperates with the CBRN Defence and Ecology Scientific Research Center (CCSACBRNE) which seeks the CBRN non-medical protection. Each of the three research institutions addresses the issue of the protection of troops and the civilian population from another perspective, without overlapping

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but being complementary. As a result, they must cooperate.

HISTORICAL BACKGROUND

In the military-political context of the Cold War, there was also the danger of nuclear attack. The Romanian Ministry of Health set up a research healthcare unit in 1967, which functioned on the platform of Fundeni Hospital in Bucharest, called the "Center of Radiobiology and Molecular Biology". This unique institution in Romania did not happen by chance. We remind that at that time on Romanian territory was prohibited the stationing of nuclear weapons, so as not to be considered a pretext for a nuclear attack on the country. The international context was strained: the "missile crisis" had just ended in which the US nuclear missiles from Incirlik (Turkey) had been directed to Moscow, and the Soviet ones from Cuba had been directed towards Washington, and the "mid-range missiles" problem was debated in Europe from the east and west coast of the continent.

As a result of the events of August 1968, when the USSR invaded Czechoslovakia, and Romania was in danger of being invaded, the Romanian Army was reorganized and this Center was taken over from the Ministry of Health by the Ministry of Armed Forces (which later became the Ministry of National Defence) by HCM no. 2423/31.10.1968. Starting with December 1st, 1968 it functioned as a military unit called the "Radiobiology Center". Its aim was scientific research in the field of medical protection against the effects of the nuclear weapon.

In 1969, through the Order of the Chief of Staff, the Center's attributions were extended to the medical protection against the other WMDs as well, and the name which it still preserves was changed to the "Military Medical Research Center". The unit had an independent brigade rank subordinated to the Medical Directorate, and the commanding ranks were at Division level of Lieutenant General, M.D. and Major General, M.D. The three component laboratories corresponded to the NBC classification (nuclear, biological and chemical), being ranked regimental, and were run by Colonels – medical doctors, who were also scientific scholars. The laboratories were made up of wards and work stations. To the personnel recruited from the Ministry of Health were added the military and civilian specialists, and from the Military Hospitals in the territory were selected the most valuable specialists, who became scientific scholars. The ranking was made for real personal merits and professional experience, not by "competition".

CLASSIFICATION AND ENDOWMENT

The first commander, since December 1st 1968, the Center's founder, was the late Colonel Alexandru Popescu M.D., an exceptional microbiologist with experience in exotic and tropical diseases, and who also participated in the fight against the plague and cholera epidemics in India. He would later become Head of the Medical Directorate, Major General Professor A.G. Popescu, PhD.

Other personalities of military medicine were also in charge: the Colonel Laurenţiu Dragomirescu M.D., Colonel Aurel Andrieş M.D., Colonel Tudor Toma M.D., Colonel Ion Urseanu M.D. A special stage in the evolution of CCSMM began during the mandate of the commander Colonel Victor Voicu M.D., who was to become Head of the Medical Directorate, Major General Acad. Professor Victor A. Voicu, M.D., PhD former Secretary General and current Vice President of the Romanian Academy and President of the Department of Medicine of the Romanian Academy, member of the Medical Academies in Bucharest and Paris etc. Colonel Mihail Silviu Tudosie M.D. (currently the commander of the Military-Medical Institute) and Colonel Radu Gabriel Hertzog M.D., the current CCSMM commander, followed.

During this period, the CCSMM gradually benefited from several workplaces, suitable for the scientific research activity: the Bratianu villa from 37 C.A. Rosetti Street (Pavilion A for Command and Administration and Pavilion B for the Toxicology Laboratory), a radiobiology pavilion at Fundeni Hospital, subsequently completed with vivarium and the underground pavement of the Accelerator for Cancer Therapy; the Microbiology Laboratory at the Cantacuzino Institute (1st Ward), 7th floor and another at the Cernica Fort (2nd Ward), the Department of Clinical Toxicology at the Floreasca
Emergency Hospital, the Psychophysiology and the Psycho-pharmacology Laboratory at the Central Military Hospital (in a pavilion originally designed and built to belong to CCSMM), etc. But as a result of successive restructurings, since 1986 and those following the December 1989 Revolution, the staff has been progressively reduced and the rank of the unit has fallen to regimental level. After the annulment of the Warsaw Treaty, it was assumed that there would be no more wars (!!) and the Center was in danger of being completely abolished. Several spaces were successively lost, the remaining staff and research equipment were and will probably be deployed.

THE SCIENTIFIC RESEARCH ACTIVITY

The unit was certified as a scientific research institution (IP) through GD no. 551/2007 and ANCS Decision no. 9806/2008. Currently, Romania, being a member of the European Union and NATO, grants due importance to national defense and security, including to the medical protection against the CBRN WMD. In this context, CCSMM is in the period of renewal of staff, premises, endowment and work procedures, for modernization and openness to new trends in military medicine and military scientific research.

The results of the scientific research activity have materialized through processes, methods of treatment or diagnosis, and experimental development of new protective compounds and antidote products, protective equipment, etc. These have been endorsed, received, approved, and some have been patented as inventions. CCSMM had at its former headquarters a permanent exhibition of experimental models and prototypes of reagents, medicines, antidotes, complete kits and models developed within the research projects. Many of them were also presented at military exhibitions: The permanent exhibition of military technology from ACTTM Clinceni, EXPOMIL 2011 and 2013, BSDA 2014, 2016 and 2018, the National Exhibition of Inventors 2012 and 2013 (where the Golden Medal and Diplomas of Excellence were obtained), etc. Some of them have been practically used on missions in the country and abroad (Saudi Arabia, Iraq, Somalia, Angola etc.).

SPECIFIC MILITARY ACTIVITIES

CCSMM has also been directly involved in military activities such as national and international exercises and applications, participating in the Persian Gulf War (1991), in Somalia and Angola, providing military-medical expertise in CBRN incidents, expertise of suspected objects brought by the Romanian Intelligence Service (e.g. “biological bomb” discovery or “anthrax letter” of U.S. Embassy), MAI, the Military Police (e.g. control for aircontainers), DIR, BOS (e.g. Afghanistan suspect probes), CBRN equipment testing in laboratory and in field, postal biological control (letters and box) etc. which constitute situational experiments for validating research and training in real terms.

PUBLISHING ACTIVITY

The CCSMM staff actively participate in the scientific life through communications to national and international scientific events, publishing of books, chapters and articles (including hundreds of ISI articles indexed in the Web of knowledge), inventions, didactics and publicity in the military and civilian press. In 1998, Major General Acad. Professor Victor A. Voicu, M.D., PhD organized a NATO scientific event, in Bucharest, entitled “Proceeding of the NATO Advanced Research Workshop on Antidotes, Protectors and Decorporators”, the papers of which were published by the Kluwer Publishing House in 1999. Scientific papers have been published in the Journal of Military Medicine, the National Defense University Bulletin, Strategic Impact, the Military Science Journal, Strategic Universe, NBC Defense, the Military Observatory, Medical Life, etc. Books were published by the Military Publishing House, the Medical Publishing House, the "Carol Davila" University Publishing House, as well as own publishing. Through these activities, the scientific knowledge of interest disseminates and the visibility of CCSMM increases, both in the country and abroad.

EDUCATIONAL ACTIVITIES

CCSMM specialists are also involved in academic and university activities, at the Military-Medical Institute, the "Carol Davila" University of Medicine and
Pharmacy in Bucharest, the "Titu Maiorescu" University, Bioterra University, the Medical School of Non-commissioned Officers in Focșani, etc. The CCSMM researchers have benefited from recognition of their work: excellence diplomas, awards, decorations, biographies mentioned in encyclopedias, etc.

PROSPECTS FOR DEVELOPMENT

The military-medical scientific research, which seemed to be forgotten by decision-makers in recent years, is reviving. The military-political world situation, which is "volatile", brings to the forefront the importance of military medicine and, implicitly, of military-medical scientific research, primarily in regards to the medical protection against CBRN weapons/agents. The prospects for the quantitative and qualitative development of CCSMM materialize and, as consequence, the context favorable for the cooperation with an old collaborator occurs, the “Cantacuzino” Military-Medical Research-Development National Institute, which was also taken over from the Ministry of Health by the Ministry of National Defense.

The current situation also allows the area of scientific preoccupations to be extended in order to cover other areas of medical and military interest, as well as the formation of a new generation of specialists to take over for the future. Besides the main field of scientific research and expertise for medical protection against CBRN/WMD, new and related areas are also successfully addressed, which are concerned with specific military pathology. Thus, in May 2018, an original work of regenerative medicine was awarded a prize at the 23rd Congress of the Balkan Military Medical Committee (BMMC) in Antalya, Turkey. The operationalization of the Integrated Platform of Scientific Research and Expertise of CBRN agents for medical protection will support the work of CCSMM and will allow new research directions to be addressed within existing laboratories. The latest participation is of 16th Medical Biodefense Conference in Munich, 23-31 October 2018.

CONCLUSIONS

CCSMM is a national military-medical unit, unique in its field of activity with a tradition of more than half a century, during which it has formed exceptional specialists and has had outstanding achievements in the scientific research on medical protection against the CBRN weapons and agents. There are prerequisites for the further development and visibility of the institution.

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