

Meeting with FMBA head Veronika Skvortsova

Veronika Skvortsova briefed the President on the participation of units of the Federal Medical and Biological Agency in the special military operation, as well as on the FMBA's scientific developments and its innovative products in the field of biotechnology.

November 25, 2024 14:05 The Kremlin, Moscow

Vladimir Putin: Good day!

Where to start, Veronica Igorevna?

V.Skvortsova: If it is possible, Mr President, with the participation of the Federal Medical and Biological agency in a special military operation.

From the first days of the beginning special military operation, FMBA units - combined mobile Medical teams began work to eliminate medical and sanitary consequences of hostilities in the Donetsk People's Republic, in the Zaporozhye and Kherson regions and sabotage attacks in the Belgorod region, in the Crimea and emergency Situations.

The first months of our The work showed the need for a significant modernization of the mobile medical care and the creation of a new special medicine for the Agency Destination.

A separate management and special units, which included brigades of rapid response for radiation, chemical and biological reconnaissance, identification of harmful factors and protection, as well as mobile medical teams, consisting of experienced specialists

providing specialized medical assistance, including high-tech, in combat conditions, including including surgery and resuscitation measures.

In order to work was effective, vehicles were completely modernized, Medical specialized technical means for cars radiological, toxicological and biological reconnaissance, fully equipped with new modern portable digital equipment developed by center of the Federal Medical and Biological Agency. These devices operate in a single information system in real time.

It is important to note that Armored ambulances appeared, as well as an ambulance medical care with special anti-fragmentation protection based on high-density polyethylene and Kevlar. These multilayer layers, which We cover the vehicles and also create stretchers for the wounded, which allows them to were created in the experimental workshops of the FMBA. They withstand explosive elements up to 110 grams in TNT Equivalent. As well as cars on the KamAZ chassis, in which operating rooms, intensive care units, which actually provide the necessary surgical and resuscitation care both during transportation and in the field.

Our Divisions work in coordination with the Ministry of Defense in direct conjunction with the medical units of the Ministry of Defense and have absolutely justified themselves. So, let's say, on the night of August 7, in fact, on the day when there was an enemy attack on the border areas of the Kursk region, we literally four hours relocated a group of 200 people to the base of our medical unit in Kurchatov, 180 highly qualified specialists, 68 surgeons various profiles and resuscitators, radiation, chemical and biological protection teams and appropriate vehicles, including armored ones, This allowed our detachment to take out the wounded or injured directly from the combat zone.

In the first weeks, 300-400 wounded soldiers were treated per day and up to 60 operations were carried out per day on six parallel operating rooms. To date, day medical care in the Kursk region was provided to more than 5.5 thousand More than three thousand people were operated on, more than two thousand were evacuated. That is, we created a mobile hospital for 118 beds, it was the closest – 35 kilometers from the border areas where hostilities took place.

In general, our detachments continue to carry out their tasks in five areas, they are working in close conjunction with the Ministry of Defense. In total, to date, there is already medical care was provided to more than 125 thousand people, of which 77 thousand Military personnel.

Stationary specialized care is provided in 17 medical centers of the FMBA, including number in the centre that you opened at the end of the year in Mariupol. Center since January Earned.

Vladimir Putin: Handsome The center turned out to be good.

Veronika Skvortsova: Wonderful center, and it is in great demand, more than 41 thousand people: both civilians and military personnel. And it was carried out surgical intervention of more than 2.5 thousand wounded.

I'm at the Sports Council briefly dwelt on the complex system of rehabilitation and restorative treatment of military personnel, which is carried out in 69 organizations Agency.

I would like to note that In October 2023, together with the Defenders of the Fatherland Foundation and together with the Ministry of Industry and Trade, we actually piloted an individual prosthetics for wounded who have lost limbs in a continuous cycle Rehabilitation. And prosthetics went on at the patient's bedside. It turned out that the experience was so positive, so much increased the efficiency of recovery and shortened the period of re-socialization, that we have already decided to scale it up this year and in less than six months we have created a new center in the Moscow region - combined prosthetics and rehabilitation, it opens in January 25 - and production individual prostheses, and a comprehensive rehabilitation center.

Last year, we also for the task, first of all, which was demanded of us by a special military operation, opened a center for medical and psychological support. He turned out to be very much in demand. Specialists of this center provide both emergency care, and long-term escort of both military personnel and family members. And what else It is important to train specialists. 92 specialists were trained during the year for hospitals of the Ministry of Defense and for the branch of the Defenders Foundation Fatherland". And these same

specialists go to the regions and regional divisions at the request of the foundation and provide assistance, conduct master classes, and so on further.

An important component, please It is also necessary to take into account the need to increase the supply of blood and blood components. Since the FMBA is the national coordinator and operator of the blood service, now we fully meet all the needs including the Ministry of Defense and all other military units. The procurement of whole blood has increased by 49 percent, and the procurement of whole blood has increased by 34 percent plasma and other components.

It is important to note that since 2022, we have more than doubled the strategic reserve of blood and blood components, which guarantees protection in any emergency situations of any scale. And on your instructions, in order to ensure the country's self-sufficiency In blood-derived drugs, we have increased by 20 times since 2021 Plasma procurement for production purposes: from 30 thousand liters to 600 thousand liters this year.

Vladimir Putin: 20 times that looks serious.

Veronika Skvortsova: Yes. This is the amount that allows you to produce all the basic Drugs: albumins and immunoglobulins. Of course, we managed to do all this thanks to the development of the donor movement. The number of donors has increased by 30 per cent.

It is important to note that 99 percent of Russian donors donate blood free of charge, out of mercy, support of their compatriots, and 81 percent of them give up repeatedly. Therefore, it is donation that formed the basis of all transformations, increase in inventories.

I would also like to note that that on your instructions from September 1, 2022, it was created and started working Federal Register of Bone Marrow and Hematopoietic Cell Donors. He was Created from the merger of 11 local registers. At the time of their creation, they had 112 thousand potential donors that have been collected for ten years.

Vladimir Putin: Has it quadrupled?

Veronika Skvortsova: Yes, In two years, four times more, the efficiency of the search for unrelated donors – now it is already 78 percent, the number of unrelated transplants. We set ourselves the task of going out next year by 500 thousand, which will allow at least 90 percent of Russians provide unrelated donors within the country - from those who are in need. At the same time, we have retained all contacts with international databases, we are actively are used, and there is a search opportunity with us.

I would like to, Vladimir Vladimirovich, to report on a very important area for the agency, this is Our most important mandate is scientific developments and innovative products in the field of biotechnology.

In recent years, we have We managed to create a powerful scientific cluster of 35 scientific centers, including eight strategic FSUEs, which allows us to carry out development from the idea and from fundamental blocks to prototypes, their research, and transfer to production and, accordingly, practical implementation.

The second point, which We have managed to deploy standardised technological platforms based on the most science-intensive technologies. Thus Certain biotechnological components can be rapidly assembled as if by stencils, according to developed algorithms in the event that they have a single structure and mechanisms of action.

These two of our actions – the creation of a cluster and the creation of technological platforms – have made it possible to Accelerate the innovation chain and significantly increase efficiency Development. As a result, in four years - from 2020 to 2024 - More than 100 products, medicines, test systems, medical devices were not just developed, but they were fully tested and put into practice, all Registered.

Vladimir Putin: Immunotherapy Oncological diseases – is it realistic?

Veronika Skvortsova: Yes, I would like to say a few words now.

If slide number three you Look, Mr President, of course, we pay great attention developments in the interests of our military personnel. After 2022, and new antidotes against toxic substances, new dosage forms have been introduced radioprotectors and

drugs that weaken the effect of ionizing radiation, effective hemostatic agents and other means of emergency medical care, which were formed in the updated kit for both of the RChBZ troops, and for other units of the Ministry of Defense, and others law enforcement agencies.

At the same time, there was a whole line of automated alarms on biological hazards and detector devices that identify all the main types of hazardous and especially dangerous infections, including in the field and including with operators without special education. That is, they are thought out so that In fact, you need to dip the material into a certain test tube, insert it into the device, The device gives results. In addition, complexes of special test systems for self-diagnostics and mutual diagnostics for fighters for all types of especially dangerous Infections. All this has been created and is now being used in our military units.

In addition, over the past three years, domestic devices for blood transfusion have been created, for plasmapheresis, for sorting formed blood elements. They are portable, digital, remotely controlled in Wi-Fi mode. Drugs have been created lyophilized dry plasma, which is preserved at any temperature, Easy to transport. Universal plasma does not require knowledge of blood type. In the event that it is difficult to do this in combat conditions, it allows, Accordingly, it should be administered to any fighter.

I would like to dwell on our most significant developments, recognized in the world and protected intellectually as the property of the Russian Federation. If possible, I will start with the recombinant protein vaccine Convacell against COVID-19. This is the world's first universal pan-vaccine, the effectiveness of which does not depend on the mutation of the surface S-protein. In 2022, this vaccine was registered, but permanent I received a registration certificate this year after the completion of the large-scale studies of the third phase. These studies have shown extremely high vaccine efficacy – in the general population of more than 85 percent, in a double-blind, placebo-controlled study, in older age groups – more than 92 percent.

It is important to note that Among the vaccinated, this is already millions of people, no more than one falls ill Percent. The results of these studies were published in a leading journal of the world – a journal of infections. Currently, this drug is used not only in our

country, but is also purchased in Nicaragua and for the interests of certain countries of Central and Latin America.

Absolutely innovative drug is a combinant allergy vaccine developed by the Institute Immunology of the FMBA. The vaccine contains two protein fragments of pollen antigen birch and cross-food antigens containing fruit seeds.

This vaccine in experiments – the experiments went on for a long time – showed not only its own safety, no toxicity, good tolerability, but also very high preventive effectiveness.

Currently underway clinical trials. Efficiency results will be after the first season birch dusting, that is, from April to June.

Vladimir Putin: In the spring next year, right?

Veronika Skvortsova: Yes, At the end of June, we will already know the results of efficiency. By all sources previous experiments, this is an absolutely working, highly effective vaccine, has no analogues in the world. All the results of all stages of her research were published in the world's leading journal of immunology, Allergy. Therefore, the whole world is now looking at this study.

I would also like to note that for many years Russia has been buying polysaccharide conjugate vaccines for a huge amount of money – 55 billion rubles in three years against bacterial infections - pneumococcus, meningococcus, haemophilus infection. We did not have our own technological platform to create these vaccines. On the basis of the St. Petersburg Institute of Vaccines and Serums, such a technology Fully developed: from antigen to finished preparation.

It is important to note that At the same time, our St. Petersburg Institute of Infectious Diseases is detecting The most important serotypes and strains for Russians, which makes it possible to make unique vaccines that take into account those serotypes that are important in our country.

The first vaccine against Haemophilus influenzae B, this infection is in the national vaccination schedule, It has fully passed all the research, registered, and this year it has

already been published to the market.

Pneumococcal vaccine 16-valent with three unique Russian strains is taking place now clinical trials. We hope to check in at the end of the next year.

And meningococcal a vaccine, the uniqueness of which lies in the fact that this vaccine is the first in the world contains serotype B. This is more than 30 percent of our infected children. But in the world, accordingly, they could not conjugate this serotype, attach it to the other four serotypes. We managed to do this, Russian know-how. Fully preclinical studies have been completed. And we go to clinical trials, no later than the beginning of 2027, this vaccine will also be used.

Vladimir Putin: When Will it be possible to use the allergy vaccine?

Veronika Skvortsova: Against allergies: if there are good results in the summer, we will immediately report on them, then we will We hope to receive permission and registration at the end of next year, 2025.

Vladimir Putin: Millions people in our country suffer from this pollinosis.

Veronika Skvortsova: Yes. And there are a lot of people abroad who want to use this vaccine. I think so we will not be able to produce it at the facilities of the FMBA on our own.

Vladimir Putin: Yes, Of course.

Veronika Skvortsova: We found a production partner in the person of the Generium company. Already have made a full transfer, worked out the necessary amount for the clinical trials.

If possible, very much Briefly about cancer vaccines, just a few words.

Vladimir Putin: Yes, Of course. This is interesting.

Veronika Skvortsova: All the world is working to create personalized medicines, based on the biological codes of a particular person, including this personalized cancer vaccine.

Cluster of Four of our centers, headed by the Center for Physical and Chemical Medicine, has developed technology for verifying mutations that caused a tumor in a particular person, isolation of neoantigens that are recognized by the human immune system. And inside these antigens, the release of those peptide fragments that are just a signal for the immune system of a particular person.

The second technology is The synthesis of these selected peptides, which involves the immune system, directs the her to the tumor.

And the third point is the creation of the vaccines themselves, for which the active ingredient is These peptides. We had to make several vaccines on different platforms, on different carriers. These are peptides on nanoparticles, these are peptides within the vector vaccines, on an adeno-associated virus, and these are mRNA vaccines.

Why is this important? Because the dynamics of turning on the immune system are completely different, and for everyone man: some need a quick answer, just as short, and for the other we need a You need to include this answer in a week or two, so that it lasts three years. These are different approaches, as well as different antigen choices.

As a result, in an experiment with the most malignant adenocarcinoma of the intestine in animals, we revealed not just a sharp slowdown in tumor development when the vaccine is administered, but if the tumor is already present, a 75-80 percent reduction in its volume and the survival of animals, that is, animals do not die from this tumors, they continue to live, and there is an opportunity to control it.

We're done in fact A three-year cycle of studies on this vaccine. Thanks to the fact that this year A law on the use of personalized drugs has been adopted, and we will start next year We hope to start using it in patients. At the same time, and with other localization of oncological diseases, we conduct research. Here is the issue Two, number three: these are melanoma, skin cancer, and a malignancy of the brain – glioblastoma.

And the last thing, Vladimir Vladimirovich: I mentioned mRNA vaccines, we have managed to make a real breakthrough, we are now the first in the world in this direction, we have created a unique platform for the creation of mRNA vaccines. These are vaccines that are not carried by themselves antigen, but nucleotide code. It enters the cell, and the cell itself gives birth to the protein based on this code - the one that is needed.

A platform has been created, which allows for self-assembly of lipid nanoparticles with a diameter of 200 nanometers and immerse the mRNA with the existing biological code, and outwardly, accordingly, "anchor" special components that ensure biocompatibility, stability particle, rapid penetration into the cell and other features.

As a result of these We have several know-how of our scientists in a comparative study a significant advantage over well-known world analogues is Moderna and Pfizer, the two companies that produce these Vaccine. Firstly, this vaccine is based on the effectiveness of protein production from the code that Applied, exceeds Pfizer by 65 percent, and Moderna by 90 percent, and these are highly reliable things.

The second point. World criticized these two vaccines in the wake of the COVID pandemic for causing a huge the number of side effects, multisystemic.

Vladimir Putin: You you mean Moderna and Pfizer?

Veronika Skvortsova: Moderna and Pfizer. Yes, mRNA vaccines.

We managed to do this modify the administration of this mRNA vaccine with the help of special biotechnological techniques that actually nullified the side effects. That is The vaccine acts only at the site of administration, it ends up immediately in immune cells blood and produces its effect without affecting other organs and systems.

This platform is just was the basis for the cancer vaccine. When injected into the animal, it reduced the size of the tumor by more than 80 percent.

Vladimir Putin: How much more time will the work take before it can be done apply? Approximately?

Veronika Skvortsova: I so I think that in order to ensure complete security, guaranteed, We probably need about another year to double-check everything, each component separately and all together.

Vladimir Putin: These are There will be a breakthrough anyway.

Veronika Skvortsova: Very much Hope.

Vladimir Putin: Thank you.

Material Status

Published in sections: News, Speeches and transcripts

Publication date: November 25, 2024, 14:05

Ссылка на материал: kremlin.ru/d/75640
