Infectious Diseases and Several Methods of Disease Control in the Tatar ASSR in 1941-1945

Ekaterina Gennadyevna Krivonozhkina

Kazan Federal University, 18 Kremlevskaya St., Kazan 420008, Republic of Tatarstan, Russian Federation

Abstract: In this article the issue is the spread of infectious diseases among the civilian population of the rear area of the Tatar Autonomous Soviet Socialist Republic in the years of the Great Patriotic War, and the basic methods of disease control, the aggravation of the situation in connection with the evacuation of a great number of the population from the immediate battle area to the republic and the mobilization of the local medical personnel to the front line. Information on the disease severity and the clinical features of the disease course are accompanied by the statistical data. Archival sources, which formed the basis of this article, were not published by the researchers before; therefore they represent a great scientific interest.

Key words: War · Infectious diseases · Epidemic typhus · Dysentery · Septic angina · Mortality · Vaccination.

INTRODUCTION

As you know, at the beginning of the Great Patriotic War tens of thousands of people were evacuated from the immediate battle area in the Tatar ASSR. Towns, settlements and villages of the republic, especially in the area of railways and wharves, were crowded with people, many of which needed medical care. For example, the Kamsko-Ustyinsky District was at the junction of three communication lines: the Lower Volga, the Upper Volga and the Kama. Every day the Kamsko-Ustyinsky District Hospital accepted the feverish patients suspected of the infection, going from all over the Soviet Union [1]. In the republic there was a major hazard of mass spread of infectious diseases - primarily parasitic typhus and gastrointestinal diseases.

MATERIAL AND METHODS

For writing of this article we collected and analyzed the materials of the National Archives of the Republic of Tatarstan, the majority of which were introduced into scientific use for the first time.

Body: In the first months of the war while the local authorities and the healthcare professionals could not cope with the arisen complex situation in view of the current circumstances, the incidence of epidemic typhus and typhoid fever, dysentery and other infectious diseases began to rise in the republic [2].

In 1942 there was the first widespread outbreak of epidemic typhus. Then 13,801 patients were recorded in absolute figures [3] that made 43.9 diseased per 10 thousand people [4]. For comparison, in 1940 there were 1,141 patients, in 1943 – 2,019 patients [3]. The disease spread by railways and waterways covering first the areas immediately adjacent to the stations and the wharves, and then penetrating deep in the adjacent areas [4].

The severity of epidemic typhus during the Great Patriotic War was primarily defined by the extent of damage of the central nervous and the cardiovascular systems. Fatigue, physical and nervous overstrain, nutritional disorder, exacerbation of chronic diseases, and other factors could have adverse influence on an organism. As a result, the resistance of some patients sharply decreased, and the severe mass infection resulted in the peracute form of typhus characterized by heavy mortality [5].
Since 1943 preventive vaccination against epidemic typhus was widely used in the country [5], however in 1944 the number of the diseased grew again in the Tatar ASSR. This time epidemic typhus was brought into the republic from the liberated areas [1]. The number of patients sharply increased in March and April, and the incidence peak was in December, when 653 disease cases were recorded in the republic (without the capital). In Kazan the mortality made up 3.3% [4]. Unfortunately, there are no data on mortality in rural areas. We dare to assume that it differed from the number of fatal cases in the capital not much.

There are medical researches including those carried out in the United States, the authors of which declare that vaccination is one of the best methods to control infectious diseases. [6]

Measles was a constant companion of epidemic typhus. Since 1941 the measles incidence had a stable tendency to decrease in the republic, reaching 8.3 infected per 10,000 people in 1943 (compared with 60.9 infected per 10,000 people in 1941). But in 1944 the situation changed radically: the number of cases increased again, reaching 46.8 infected per 10,000 people [1]. Only seven of the inland areas of the republic located far from the waterways and the railways were entirely free from measles [4].

The American researchers write about the methods of measles control in detail [7].

Gastrointestinal infections (typhoid fever, paratyphoid, dysentery) accompanied by diphtheria became dominant in 1943 [4]. From December 1943 to April 1944 a heavy outbreak of epidemic flu was recorded [2]. Inhabitants in different continents suffered from the similar outbreaks of the infection [8].

However, alimentary toxic aleukia (or septic angina) was a real disaster for the population of the republic. According to the damage massiveness, the severity of clinical phenomena, the peracute spread rate (it started on May 3-4, and quickly ended at the beginning of July) it surpassed many times in its scope and consequences all acute infectious diseases put together for the whole year [2] and influenced the growth of rural mortality.

The affected districts formed a continuous territorial area in the south-eastern part of the republic, the so-called "Bugulinsky cluster", on the border with the Bashkir ASSR and the Kuibyshev Region, the population of which was also infected by septic angina on a massive scale [4].

The incubation period of the disease took up at the average 1-1.5 months. At the anginal stage the disease proceeded under peracute phenomena of tissue necrosis, excessive bleeding and general sepsis. At the anginal stage mortality was very high (till 40% -50%) [4].

From May 6 to May 19, 1944, 6,363 disease cases were recorded in the republic. 1,435 of them died, and 1,149 were hospitalized [9]. Each day the number of patients increased tragically. The problem was exacerbated by the fact that patients lived in dozens of scattered villages in a number of districts. It complicated for the medical personnel to render prompt assistance to those in need. A large number of severely ill patients died at home [9].

In villages of Aznakaevsky and Bavlinsky Districts all grain overwintered under snow and flour out of such grain were withdrawn from the population. But one could not replace it: neither bread, nor flour was in the districts [9].

On May 23, 1944 the Chairman of the Council of People's Commissars of the Tatar ASSR and the Secretary of the Tatar Regional Party Committee Nikitin sent an urgent telegram to the Council of People's Commissars of the USSR to A.I. Mikoyan:

"In thirty districts of the republic there are more than eight thousand patients with septic angina: about two thousand cases of mortality. In addition, in connection with the deficiency of bread there are many cases of malnutrition and mortality from malnutrition in many collective farms in some districts. The measures taken by us did not give the proper results. The number of patients with septic angina worn-out because of malnutrition is increasing every day" [9].

In total in 1944, 35,509 cases were recorded, and the number of fatal cases was 6,490 or 18.2%. It is typically that until 1942 there was no septic angina in the Tatar ASSR [9].

Though septic angina is not an infectious disease, its emergence in the sort of outbreak, the course peculiarities and the measures to control it rather bring it together with the epidemic phenomenon. Therefore the proven anti-epidemic methods were applied to eliminate this outbreak. The settlements and the villages which did not have their own doctors at that time began to be served part-time by the doctors from the neighboring districts [10]. During the campaign 7 professors, 50 doctors, 150 students of the Medical Institute, 236 students of the first aid and obstetric colleges, 10 laboratory assistants, 7 students of
the Dental Institute, 3 assistants of the epidemiologist, 7 students of the nursing college were sent on mission to the affected areas. In total in the affected areas, except the local doctors and the paramedical personnel, up to 500 medical officers worked who were involved from Kazan and other towns and cities of the republic [9]. In June 1944 the People's Commissar of Public Health of the USSR Miterev visited Tatarstan who together with the People's Commissar of Public Health of the Tatar ASSR Prokushev flew to Bavlinsky, Novo-Pismyansky Chistopolsky Districts to provide the necessary assistance [9].

In addition to the hospital bed network existing in the districts, the temporary in-patient hospitals were opened, in which 15,640 patients were hospitalized for the time of the disease outbreak. Meal stations were opened in the affected villages. It is interesting that in the Novo-Pismyansky District, for example, in the first working days of the in-patient hospital the patients avoided to get to it but when they saw that a large number of convalescent people are discharged from the hospital, began to aspire there [9]. On the 29th of June in the republic 809 meal stations worked which were visited by 78,366 people [4]. In a number of enterprises, childcare centers, medical institutions, pine needle drinks were used to compensate for the lack of vegetables and vitamins [4]. At the beginning of July angina began to decline.

In 1945 12 cases of anthrax were recorded (in comparison with seven cases in 1944): three cases in the Menzelinsky District, two cases - in the Krasnoborsky District, one case in Aznakevsky, Bavlinsky, Budennovskiy, Vysokogorsky, Dubyazsky, Tetyushsky Districts and in Zelenodolsk [2].

**CONCLUSION**

However it is necessary to emphasize that in the specified years in Tatarstan there was no case of plague or epidemic cholera- the well-known "companions" of the war. It is the evidence of the unprecedented measures taken by the administration of the republic and the medical personnel for stabilization of the situation in the region.

Summary. In the conditions of the military situation in the rural areas of Tatarstan lifting of those diseases was observed, growth of which was considerably caused by the worsened conditions of economy, first of all, by malnutrition. And specific deprivations and difficulties of the wartime resulted in fast weariness of the cardiovascular system, exhaustion of a human body, weak resistance to diseases, high mortality. However incidence and mortality of the population could be higher, but for the work of medical workers who were really heroic in difficult conditions of the wartime.

**REFERENCES**

1. National Archives of the Republic of Tatarstan, Collection p-3959, List 1, File 714.