



## Modern Aspects of the Clinical and Epidemic Process of Brucellosis

1. M. A. Farmanova

Received 2<sup>nd</sup> Aug 2023,  
Accepted 19<sup>th</sup> Aug 2023,  
Online 16<sup>th</sup> Sep 2023

**Abstract:** Epidemiological procedure, clinical-specific brucellosis in physiological and excretory criteria and prognostic criteria. In the analyzed morbidity, patients and 86 hot tubes with impedance were studied, guarantee rejection, an infectious disease, rotting and characteristic, severe brucellosis.

**Key words:** Brucellosis, epidemiology, clinical manifestation, organopathology.

<sup>1</sup> Department of Infectious Diseases,  
Bukhara State Medical Institute Named  
after Abu Ali Ibn Sina

### 1. Introduction

Brucellosis has been and remains one of the urgent problems among zoonotic infections for the health authorities of several states, including the republics of Central Asia and Uzbekistan, there is an uneven distribution of brucellosis in different regions, which depends on climatic and geographical conditions, it is one of the main factors influencing on the occurrence and development of episodic and epidemic processes. The epidemiological and epizootological situation of brucellosis remains a complex socio-economic problem. The true picture of its prevalence is difficult to assess. According to WHO (1997), more than 500,000 cases of brucellosis in humans are recorded annually in the world; estimated number is 10-25 times more. In endemic countries, the incidence rate exceeds 10 cases per 100,000 population.

The high medico-social and economic significance of this disease is determined by the peculiarities of the course with the development of chronic forms, long-term disability, disability, as well as the main affected contingent - the able-bodied population aged 20 to 60 years, which is associated with social reasons and professional factors [1,3,7].

Each economic region of Uzbekistan has its own characteristics and this, undoubtedly, plays a role in the development of an episodic, and therefore an epidemic process in brucellosis. So, for example, in the Zarafshan economic region, natural conditions are different and depend on the climatic and geographical location of the territory — in the western part there are plain spaces, deserts, steppes; in the east, the area gradually passes into the foothills and mountains of the Turkestan, Zarafshan and Gissar ranges. Deserts extend southward and pass into the steppes of Karshi, Karnap-Chul, and Jazam. These are pasture lands for Karakul sheep [11,12,13].

In the Republic in the Zarafshan economic region, the highest incidence of brucellosis has been observed for several decades. A high incidence is also noted in the Jizzakh region, belonging to the

Tashkent economic region, but it should be emphasized that earlier the Jizzakh region was part of the Samarkand region as one of the regions. In these territories, historical prevailing episodic brucellosis troubles are observed associated with the livestock orientation of agriculture, as More than 60% of agricultural animals are located in these territories. Here, the astrakhan farms of Uzbekistan are concentrated, as well as the very high weight of livestock belonging to the private sector.

In the indicated territories of the Republic, the intensive incidence rate of brucellosis exceeded in some years 24.16 (per 100 thousand people), not dropping below 3.0 even in prosperous periods. At the present stage, episodic and epidemiological situations of brucellosis are becoming more complicated due to the disbanded state farms — sheep trade farm (SHTF) and milk trade farms (MTF). [5,6,8]

A new type of farm-farm was formed, the number of livestock increased, especially in individual farms. So, for example, in the Republic as a whole compared to 2004, in 2009 the number of cattle increased by almost 1 million heads, and small cattle by 5 million heads. With this type of farming, the unprotected strata of the population became even more involved in farming, i.e. minor children. And most importantly, veterinary control of animals and epidemiological surveillance of workers caring for these animals are not carried out. they are not considered a professional contingent due to the lack of SHTF and MTF [10,14].

In this connection, brucellosis among the population is gradually becoming more active, cases of brucellosis have become more frequent, the disease is sufficiently recorded among children under 14 years of age, and family cases of the disease have often been observed [2,4,9]

It has been established that, as we have repeatedly pointed out in our previous works, the incidence rate remains high in the former endemic regions of the Republic, among which the leading ones are the Zarafshan and Tashkent economic regions.

## **2. Purpose of the Study**

To identify the features of the epidemic process of brucellosis in modern conditions and to develop criteria for predicting the incidence of this pathology.

## **3. Materials and Methods**

When analyzing the incidence of brucellosis for 2010-2018. The data of the Republican Center for Sanitary and Epidemiological Supervision were used. An epidemiological assessment of 86 case histories was carried out with the determination of the source of the causative agent of infection, the ways and conditions of infection, the age and nature of the professional activity of patients with brucellosis in 2010-2018.

## **4. Results and Its Discussion.**

According to the research results, in the structure of the incidence of zoonotic infections according to the long-term average data from 2010-2018. the share of brucellosis was 5% of the total amount of zoonotic infections. The distribution of incidence among regions of the republic was characterized by unevenness. In total, during the period of research in the territory on brucellosis of cattle and small cattle, 21 dysfunctional points (20%) and 51 points in the individual 98 (80%) livestock sector were registered in the public sector.

It should be noted that diagnostic studies and vaccination work among animals of the individual and public livestock sector are not carried out in full.

An important prognostic sign of the incidence of brucellosis among animals in the republic is an increase in the percentage of reagents (animals that respond positively to brucellosis investigated by serological methods: agglutination reaction and complement binding reaction).

An increase in the percentage of reagents is observed in regions with an increased and moderate degree of incidence. According to the results of the research in rural areas, it was found that the male population prevailed in the morbidity structure (72%). Recently, there has been an increase to 87% in the share of working-age people with brucellosis. The main risk group for age in these years was people 30-39 years old ( $1.31 \pm 0.36$  per 100 thousand people). In all other groups, the incidence was: up to 10 years ( $0.09 \pm 0.06$  per 100 thousand population), 10-19 years ( $0.35 \pm 0.11$  per 100 thousand population), 20-29 years ( $1.25 \pm 0.43$  per 100 thousand population), 40-49 years ( $0.92 \pm 0.26$  per 100 thousand population), 50-59 years ( $1.07 \pm 0.43$  per 100 thousand population) and 60-69 years ( $1.04 \pm 0.09$  per 100 thousand population).

Recently, small cattle (62%) were the leading source of the causative agent of infection for rural residents of the republic. The main route of human infection was contact household (77.0%). However, the possibility of implementing 4 other infection routes (food - 5%, air-dust - 1%, combined - 9%) is not ruled out.

When studying the incidence among people of various professions, the following was revealed. Persons not professionally associated with caring for animals accounted for 63%. In the group of persons professionally associated with caring for animals, the leading position in the first was taken by veterinarians both among women (55%) and among men (58%). Among the rural population, an increase in the incidence rate begins in January, gradually reaching its maximum in April (0, 078 per 100 thousand of the population), which is associated with calving. Then the incidence rate gradually decreases and the second peak incidence is recorded in July (0.068 per 100 thousand of the population), which is associated with the consumption of food. The third peak in the incidence of brucellosis is recorded in September (0.03 per 100 thousand people), which is also due to the consumption of meat and dairy products.

Changes in the clinical picture of brucellosis have been identified. Muscle pain at the onset of the disease in the study period occurred in 3.4% of cases versus 3.2% in 2000-2005, positive serological reactions - 11.7% of cases and 3.2%, respectively. Symptoms such as sweating – 25.4%, joint pain - in 29.3%, chills - in 13.1%, lower back pain - in 3.3% against 35.5; 41.9; 20.0 and 12.9, respectively, normal body temperature - in 36, 7% of patients in 25, 5%, ( $p < 0.05$ ).

Hepatomegaly was detected in 66.7%, an enlarged spleen in 30% of patients, earlier these symptoms were in 87.1% and 48.4% of patients, respectively ( $p < 0.05$ ). Low back pain, joint pain as symptoms have recently occurred in 6.7% and 56, 7% of patients in 16.1% and 64%, respectively ( $p < 0.05$ ). The duration of the fever in 2010-2017. decreased to  $5.4 \pm 0.65$  days ( $11.4 \pm 3.5$  days,  $p < 0.05$ ), lymphadenitis -  $6.21 \pm 1.22$  days ( $5.88 \pm 0.67$  days,  $p < 0.05$ ), hepatomegaly -  $7.13 \pm 1.02$  ( $13.61 \pm 1.38$  days,  $p < 0.05$ ), splenomegaly -  $7.06 \pm 1.46$  ( $7.47 \pm 1.45$  days,  $p < 0.05$ ), joint pain - 4,  $56 \pm 0.76$  days ( $10.82 \pm 1.95$  days,  $p < 0.05$ ).

## 5. Conclusions

1. The clinical manifestations of brucellosis in the modern period are characterized by a milder course, a shorter duration of the prevalence of acute forms.
2. In the structure of patients, the number of persons professionally not associated with animal husbandry increases, the infection of which comes from cattle in the individual animal husbandry sector.

## REFERENCES

1. Akhmedova M.D, Mirzaeva M.A Diagnostic features of brucellosis in the endemic region of the Republic of Uzbekistan // Clinic, orderly, microbiology VA epidemiology of dolzarb muammolari. - Tashkent, 2009.-C 56

2. Xudoydodova S.G., Farmanova M.A. Clinical manifestations of Covid-19 in children // Новый день в медицине. 2020. №2(34/3). С. 355-358.
3. Pappas G.P.P. The new global map of human brucellosis. Lancet Infect Dis, 6: 2006 91-99.
4. Clinical practical guide to brucellosis Tashkent-2018 C118-119
5. Mirzaeva M.A. On the issue of the epidemiology of brucellosis in modern conditions // Clinic, orderly, microbiology VA epidemiology dolzarb muammolari. - Tashkent, 2009.-С 56
6. Фарманова М.А., Касимов И.А., Атажаджаева Д.Р. (2020) Бруцеллез касаллигининг клинко-эпидемиологик хусусиятлари. Тиббиётда янги кун. 1. 29.
7. Farmanova M.A., Kasimov I.A., Atakhodjaeva D.R., Zainiddinova M.B. Clinical and epidemiological features of brucellosis at the present stage. // A new day in medicine. -№ 1 (29). - 2020 . - 436 p.
8. V.G. Demchenko, A.D. Safonova, N.V. Rudakov and S.I. Erenieva. Modern hygienic, epidemiological and clinical aspects of brucellosis // In the book. Sanitary-hygienic and clinical-immunological aspects of professional brucellosis in modern conditions. Under the general editorship of professors: Collective monograph. - SPb : TESSA, 2014.- 220. P. 15-18.
9. De Massis, F. et al., 2005. Correlation between animal and human brucellosis in Italy during the period 1997–2002 // , 11(8), pp. 632–636.
10. Худойдодова С.Г. Респираторные проявление COVID-19 у детей. // Тиббиётда янги кун. 2022 №2 (40). С. 176-179.
11. Худойдодова С.Г., Фарманова М.А. COVID-19 и дети. // Инфекция, иммунитет и фармакология 2021. №3 С.180-184.
12. А., Фарманова М., and Зайниддинова М. “Клинко-Эпидемиологические Аспекты Хронического Бруцеллеза”. Central Asian Journal of Medical and Natural Science (October 18, 2021): 70-75. Accessed March 15, 2023.  
<https://cajmns.centralasianstudies.org/index.php/CAJMNS/article/view/352>.
13. И.А. Касимов, М.С. Шаджалилова, М.А. Фарманова Бруцеллез инфекциясининг клинко-эпидемиологик хусусиятлари ва иктисодий жихатларини бахолаш - Тиббиётда янги кун, 2020
14. Худойдодова С.Г., Фармонова М.В. 2021. Covid-19 у детей. Central Asian Journal of Medical and Natural Science. (Oct. 2021), 183-186. DOI:<https://doi.org/10.47494/cajmns.vi0.374>.