ECOLOGICAL AND EPIDEMIOLOGICAL STUDY OF FRANCISELLA TULARENSIS IN GUSAR AND KHACHMAZ REGIONS IN THE NORTHERN PART OF AZERBAIJAN

Rita İsmayilova[1], Huseyn Hajiyev[2], Bakhtiyar Aydinov[2], Yegana Sultanova, Rakif Abdullayev[1], Sheyda Shikhaliyeva[1] and **Sabina İbrahimova[1]**

[1]Republican Anti-Plague Station, Azerbaijan
[2]Khachmaz Regional Anti-Plague Division

Introduction: *Francisella tularensis* is a highly virulent bacterium for humans and rodents. In some countries, endemic regions with frequent outbreaks are bordering with the regions with no history of tularemia. In Azerbaijan, there are natural foci of this infection. The main goal of this study is to define the prevalence and distribution of *F. tularensis* pathogen in Khachmaz and Gusar regions of Azerbaijan.

Methods: In total, 13 trips were made to Khachmaz region for six months (April-September) during spring, summer and autumn where arthropod specimens (ticks) were collected. Each of these monthly (2-3 times a month) trips lasted nine days. Collected ticks were identified through microscopy, and they were grouped and tested by RT-PCR.

Result: 8216 ticks that were collected are distributed as follows: *Dermacentormarginatus* (3650) 44 %, *Rhipicephalussanguineus* (2932) 35%, *Rhipicephalusturanicus* (1421)17%, *Ixodesricinus* (118) 1.5%, *Hyalommaplumbeum* (52) 0.6%, *Hyalommaasiaticum* (41) 0.4 %, *Haemaphysalispunctata* (1) 0.01%. 1269 tick pool (8216 ticks) samples were tested by RT-PCR. 12 samples were positive for tularemia. The following ticks were identified in the given samples: *Dermacentormarginatus, Hyalommaplumbeum, Rhipicephalusturanicus* and *Rhipicephalussanguineus*.

Conclusion: Results of the study conducted in the Northern part of Azerbaijan show that the prevalence of tularemia was high. There was no confirmed human case of tularemia in this region for the last ten years. These results will further contribute to public health and veterinary services as part of one health program.

Recent Publications

1. Kracalik I T, Abdullayev R, Asadov K, Ismayilova R, Baghirova M, Ustun N, Shikhiyev M, Talibzade A and Blackburn J K (2015) Human brucellosis trends: re-emergence and prospects for control using a one health approach in Azerbaijan (1983-2009). Zoonoses Public Health 63(4):294-302.

2. Kracalik I, Abdullayev R, Asadov K, Ismayilova R, Baghirova M, Ustun N, Shikhiyev M, Talibzade A and Blackburn J K (2014) Changing patterns of human anthrax in Azerbaijan during the post-Soviet and preemptive livestock vaccination eras. PLOS Neglected Tropical Diseases 8(7):e2985.

3. Zeynalova S, Shikhiyev M, Aliyeva T, Ismayilova R, Wise E, Abdullayev R, Asadov K, Rustamova S, Quliyev F, Whatmore A M, Marshall E S, Fooks A R and Horton D L (2015) Epidemiological characteristics of human and animal rabies in Azerbaijan. Zoonoses Public Health 62(2):111-8.

4. Ismayilova R, Mody R, Abdullayev R, Amirova K, Jabbarova L, Ustun N, Jahanov M, Nasirova E, Powers M, Rivard R, Hepburn M and Bautista C T (2013) Screening of household family members of brucellosis cases and neighboring community members in Azerbaijan. American Journal of Tropical Medicine and Hygiene 88(5):929-31.

5. Abdullayev R, Kracalik I, Ismayilova R, Ustun N, Talibzade A and Blackburn J K (2012) Analyzing the spatial and temporal distribution of human brucellosis in Azerbaijan (1995-2009) using spatial and spatio-temporal statistics. BMC Infectious Diseases 12:185.

Biography

Rita İsmayilova has completed her PhD from Azerbaijan Medical University and Post-doctoral studies from Republican Anti-plague Station School of Epidemiology. She is the Deputy Director of Republican Anti-plague Station. She has published more than 40 papers in reputed journals and has been member of EIDSS administration committee.

ritaismayil@gmail.com