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### Study of prevalence of *Bartonella* infections among patients with fever of unknown origin in the country of Georgia

**Statement of the Problem:** Only few years ago the diseases caused by *Bartonella* spp. were viewed as medical curiosities. During recent years it has become apparent that *Bartonella* species are associated with many illnesses other than the previously recognized cat-scratch disease, trench fever, Carrion's disease, neuroretinitis, Peliosis hepatis and bacillary angiomatosis. *Bartonella*-associated illnesses involve a broad spectrum of signs and symptoms. In the present study, our objective was to detect a presence and diversity of *Bartonella* species among patients with fever of unknown etiology in Georgia.

**Methodology & Theoretical Orientation:** 298 clinical samples (149 - whole blood, 149 - sera) collected in 2015-2016 from the cases with fever of unknown etiology from different clinics of Georgia had been collected; whole blood were plated out on the Chocolate agar and incubated in anaerobic conditions with 5% CO<sub>2</sub> for up to 45 days; DNA was extracted from each blood samples and PCR were run to identify presence of *Bartonella* spp; have been conducted serological investigation of all 149 clinical (sera) samples. Were used four different antigens by Indirect Fluorescent Assay – *B. elizabethae*, *B. tribocorum*, *B. quintanae*, *B. hensalae*.

**Findings:** We have screened 149 human blood samples by culturing. No *Bartonella* isolates were obtained from any of these specimens tested. Out of 149 blood tested by conventional PCR assay using gltA primers, only 3 of them gave positive results. Serological investigation of 149 sera 9 samples were confirmed as positive for antibody against *B. hensalae* and 16 samples were positive on *B. quintanae* antigen. Totally 16,77% of enrolled cases were positive.

**Conclusion & Significance:** As a result of this study, data on the distribution of *Bartonella* bacteria in humans are collected for the first time in Georgia. Next steps will be to determine factors associated with the emergence of bartonellosis in Georgia.

### Biography

Lile Malania is the Head of General bacteriology Laboratory, National Center for Disease Control and Public Health from 2015- present); She was a Chief Specialist in Department of Biosafety and Especially Dangerous Infectious from 2006-2014. She has done her MD in Preventive Medicine (Tbilisi State University, Georgia, 2001) and Ph.D. in Epidemiology in Tbilisi State Medical University, Tbilisi, Georgia and Postdoctoral Fellowship of Fulbright Scholar program in Centers for Disease Control and Prevention, Fort Collins, CO, USA, 2010.

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