

## Human Brucellosis in Macedonia: Past and Present

Vaso Taleski\*, Milka Zdravkovska\*, Slavco Mrenoski\*\*, Velo Markovski\*, Darko Bosnjakovski\*

\*Faculty of Medical Sciences, University 'Goce Delcev' Shtip, Macedonia

\*\* Faculty of Veterinary Medicine, University St. Cyril and Methodius, Skopje, Macedonia

Since 1980, representing an endemic area, Republic of Macedonia is confronting brucellosis as a serious veterinarian, medical and economical problem.

First few years of the beginning the epidemic and epizooty were devoted to education of health & veterinarian workers and introducing various lab test for diagnosis of human and animal brucellosis. Education of population was also intensively implemented.

By the time, different tests were implemented, as screening or confirmatory tests, some in studies some as a routine diagnostic test, such are: Agglutinations tests: (Rose Bengal test (RBT), Slide Agglutinations test; Standard tube test (SAT), Wright test; Antihuman globulin test (Coombs); *Brucella* Capt test; 2-Mercaptoethanol test; Micro-technique of 2-Mercaptoethanol test; Complement fixation test (CFT); Indirect enzyme immunoassay (ELISA); Competitive enzyme immunoassay (c-ELISA); Fluorescent polarization assay (FPA); PCR-based assays from peripheral blood samples.

From 1980 to 2012, there were a total of 11.884 new cases of human brucellosis, with highest number of 907 human cases in 1992 (population about 2 mil.)

Until 2008, existing system "test and slaughter" was not successful, so high numbers of infected animals and humans (average 400-500 new cases per year) were stable. In 2008, control strategy was completely changed from "test and slaughter" to vaccination for small ruminants (sheep and goats) with Rev 1 vaccine, applied intraocular. Country territory was divided in three vaccination regions: with high, intermediate and low (free of brucellosis) prevalence. For differentiation of Rev 1 strain from infectious/field strains PCR-RFLP based on a mutation in the *rpsL* gene was implemented.

As a result of vaccination, number of human cases significantly decreased, from 480 in 2008, to 287, 167, 106 and 94 in 2009, 2010, 2011 and 2012, respectively.

This program is extended till 2015.

**Key words:** brucellosis, Rev 1,