

LETTER TO THE EDITOR

GLANCE BACK AT THE 8TH INTERNATIONAL CONFERENCE ON TULAREMIA



Tularemia is an epizootic infection caused by *Francisella tularensis* (*F. tularensis*). Tularemia is mainly a disease of wild animals that is transmitted to humans by contaminated environment or ectoparasites. Any age, sex, or race is universally susceptible to infection. Infection is incidental and is usually a result of interaction with biting or blood-sucking insects, wild animals, or their environment. *F. tularensis* is an etiologic agent of tularemia and, with rare exception, the only disease produced by this genus. The organism is a small, Gram-negative, pleomorphic, nonmotile, nonspore-forming coccobacillus. It is a strict aerobe that infects the host as a facultative, intracellular bacterium. The two main biovars, *F. tularensis* biovar *tularensis* (Type A) and *F. tularensis* biovar *holarctica* (Type B) exist. Type A produces the more serious disease in humans with an untreated fatality rate of approximately 5% and is found in the North American continent. Type B produces a milder, often subclinical disease, and is associated with water or aquatic mammals. Recent

evidence of an increased incidence has been found in Scandinavian countries, eastern Europe, and Siberia.

The interest and the increasing need for communication, exchange of experience and materials, training in diagnostics and research methods has led to the idea of creating an international scientific society focusing on tularemia. Under the umbrella and with active participation of WHO, a group of scientists has met to develop this idea. Finally, the non-profit organization Tularemia International Society (TULISOC) has been established to facilitate and encourage the assembly, acquaintance and association of scientists from all geographical regions engaged in tularemia research, to foster and encourage discussion and dissemination of the results of research and related matters of interest in this field and to promote awareness of the field and of the implications of the research findings. It is an honor for the Faculty of Military Health Sciences that one of the scientists working at the Department

of Molecular Pathology and Biology (Dept. Mol. Pathol. Biol.), Prof. Jiri Stulik, has been nominated for election to the Vicepresident-Secretary position of the TULISOC.

The 8th International Conference on Tularemia was held in the beautiful „Grand Hotel 4 Opatijska cvijeta” which is located in the heart of Opatija, near the famous Lungomare coastal promenade and next to one of Opatija's most beautiful gardens – the Angiolina Park just southwest of Rijeka on the Adriatic coast. The conference was held from September 28 to October 1, 2015 and has kept past tradition by maintaining an interdisciplinary program, that highlighted research efforts on the:

- Genomics, Proteomics and Genetics of *Francisella*
- Bacterial Physiology, Biochemistry and Adaptation of *Francisella*
- Cell biology of *Francisella*
- Host response of *Francisella*
- Vaccines, Therapeutics and Diagnostics for Tularemia
- Clinical Disease, Epidemiology, and Ecology of Tularemia

During the International Conference, 49 lectures were presented in one lecture hall. Additionally, the participants could see 91 exhibited posters. The topics of poster presentation were focused on questions of highlighted research on tularemia. Among the chairs of all interdisciplinary sessions, prof. Jiri Stulik, M.D.,CSc., from Dept. Mol. Pathol. Biol., Faculty of Military Health Sciences, University of Defence has opened the first conference session designated to Genomics, Proteomics, and Genetics of *Francisella* with a great interest.

The group of researchers from the Dept. Mol. Pathol. Biol., Faculty of Military Health Sciences, University of Defence presented the following interdisciplinary studies:

Oral presentation:

- Fabrik I., Link M., Putzova D., Rehulka P., Stulik J.: Proteomic mapping of cell signaling in dendritic cells during early interaction with *Francisella tularensis*
- Krocova Z., Kubelkova K., Plzakova L., Macela A.: The role of B cells in the course of *F. tularensis* infection

Poster presentation:

- Pavkova I, Klimentova J., Schmidt M., Sheshko V., Stulik J.: The changes in *F. tularensis* proteome in response to the deletion of dsbA-like gene determined by SILAC approach
- Klimentova J., Stulik J.: *Francisella tularensis* subsp. *holarctica* (strain FSC200) outer membrane nanotubes – proteomic characterization
- Balonova L., Link M., Dankova V., Stulik J.: Analysis of *Francisella tularensis* protein O-glycosylation pathway
- Plzakova L., Kubelkova K., Krocova Z., Macela A.: Entry of *Francisella tularensis* into B cells

A number of meetings were taking place during the conference dealing with the ongoing and future scientific cooperations. The representatives of the Dept. Mol. Pathol. Biol. negotiated the next long-term cooperation with prof. Santic (University of Rijeka, Croatia), Dr. Elkins (Food and Drug Administration, USA), Dr. Mou (The United States Army Medical Research Institute for Infectious Diseases, USA), prof. Sjostedt (University of Umea, Sweden), Dr. Henry (Inserm and Lyon University, France), prof. Maurin (University of Grenoble, France) and Dr. Bar-On (The Israel Institute for Biological Research, Israel). Moreover, the possibilities of mobility activities of PhD. students and Postdocs supports were settled and organized within the multilateral networks.

With insight into the past, the first International Conference on Tularemia was held in Umea, Sweden, in 1995. The second conference was organized by Purkyně Military Medical Academy in Hradec Kralove in 1997. The subsequent conferences have been organized every three years at venues located in Europe, or in the United States. The conference has a rich history of having hosted hundreds of attendees and presenters from academia and from the clinic and industry. This engagement provides an environment wherein this interdisciplinary group has integrated and established relationships within *Francisella* research.

To conclude, the 8th International Conference on Tularemia has featured new research directions

and methods for drug and vaccine development. Moreover, an overreaching goal of the four-day program of the conference was to provide environment that will serve to promote collaboration among scientists doing cutting edge research regarding tularemia.

On behalf of conference attendees, I would honorably like to thank the Local Organizing Committee, especially Dr. Marina Santic, Ph.D. (Faculty of Medicine, University of Rijeka, Croatia), TULISOC, and Scientific Committee for this great meeting of interesting people from all over the world. Hopefully the next 9th International Conference on Tularemia, which will be held in 2019 (the venue within the United States will be confirmed), will promise at least the same outstanding success.

ACKNOWLEDGEMENT

The participants from Faculty of Military Health Sciences, University of Defence were supported by Long-term Organization Development Plan 1011 from Ministry of Defence, Czech Republic and by Grant No. 15-02584S from the Czech Science Foundation.



1st. Lt RNDr. Klara Kubelkova, Ph.D.
Department of Molecular Pathology and Biology,
Faculty of Military Health Sciences
University of Defence
Trebesska 1575
500 01 Hradec Kralove, Czech Republic
email: klara.kubelkova@unob.cz

Received 9th August 2015.

Revised 9th August 2015.

Published 4th December 2015.