Bacterial triggers in the etiology of Crohn's disease and other autoimmune and autoinflammatory diseases

WELCOME

Brno (Tišnov), Czech Republic, 14-15 May, 2009

PathogenCombat integrated research project of the European Union 6th Frame Programme

OIE Reference Laboratory for Paratuberculosis
Veterinary Research Institute, Brno
PROGRAMME

Wednesday 13 May, 2009
19:00 to 22:00 Get Together (Veterinary Research Institute, Hudcova 70, Brno)

Thursday 14 May 2009
08:30 Visit to the Department of Food and Feed Safety and OIE Reference Laboratory for Paratuberculosis (Meeting room)
10:30 Departure from Hotel IMOS
11:00 Registration
12:00 Lunch
13:15 Opening session (M. Toman, M. Jakobsen, E. Liebana)
13:30 (1) Crohn's disease (J. Hermon-Taylor)
14:30 (2) Paratuberculosis (M. Collins, R. Juste, I. Pavlík)
15:30 Coffee break
16:00 (3) Mycobacteria in water and environment (J. O. Falkingham III)
19:00 Dinner

Friday 15 May 2009
09:00 (4) Mucosal immunity (J. Mestecky, H. Tlaskalova-Hogenova)
10:00 (5) Formula feeding (K. Hruška)
10:30 Coffee break
11:00 (6) Food industry and veterinary practice (D. Bakker)
12:30 Lunch
13:30 (7) Recommendations (K. Hruška, R. Goethe, I. Pavlík)
15:00 Closing session
15:45 Porta Coeli
19:00 Dinner

Saturday 16 May 2009
Informal discussion continues, summaries of opinions should be submitted by e-mail before 20 May 2009
09:00 Departure
10:00 Pernštejn Castle
13:00 Lunch (Rustic Restaurant Formanka, Lipůvka)
15:00 Mendel Museum, Brno
16:00 Brno sightseeing
18:00 Accommodation (Hotel IMOS or Na Kytnerce)
19:30 Barbecue Party (Veterinary Research Institute)
GENERAL INFORMATION

The number of discussions will not be limited within the timetable. However one presentation should not exceed three minutes and no more than three slides can be presented during one comment.

Participants in the discussion are requested

- To assess the facts as acceptable or to suggest deletion from the list.
- To formulate more facts.
- To change a hypothesis to a fact if there is enough knowledge already available.
- To suggest new hypotheses.
- To recommend key research to assess the hypotheses.
- To recommend measures to decrease the health risk for consumers (knowledge dissemination should be directed to farmers, food industry, veterinary administration, veterinary practitioners, laboratory diagnosticians, consumers, health and environmental professionals).
- To recommend how to decrease the economic losses in the dairy industry.

The contributions presented during the discussion

- Will be requested by organizers immediately after the session as the written, authorized, concise text, to be published in the Proceedings
- Short summaries of the presented contributions can be written by hand, however a PC will be available in the meeting room and the electronic version is preferred (forms for contributions will be available: please mark the part of discussion according to the time table)

The Proceedings will be distributed before 15 July, 2009.
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Bacterial triggers in the etiology of Crohn’s disease and other autoimmune and autoinflammatory diseases

Round table discussion, 14-15 May, 2009, Červený mlýn, Tišnov, Czech Republic
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PathogenCombat

PathogenCombat is one of 13 FP6 research projects in which the Veterinary Research Institute, Brno, Czech Republic is participating. The project will contribute to food safety and consumer protection by generating more knowledge on food pathogens (bacteria and viruses) that can cause diseases in humans.

Mycobacteria, as food pathogens, are still considered less important than the more well-known salmonella or campylobacters. Mycobacteria are very resistant and may survive pasteurisation and insufficiently rigorous heat treatment of food. Those with compromised immune systems or people who have undergone transplantations may become ill not only after inhaling aerosol droplets containing mycobacteria or following skin injury, but also from contaminated food and water. Large quantities of Mycobacterium avium subspecies paratuberculosis may be found in the milk and meat of ruminants suffering from paratuberculosis which is a very common disease in cattle and sheep that causes great losses to farmers. Other mycobacterial species may also colonise biofilms in reservoirs and drinking water distribution systems.

Project investigators wish to contribute to the discussion concerning a role for mycobacteria in the etiology of Crohn’s disease and certain other autoimmune and autoinflammatory diseases in which peptidoglycans and other components from bacterial cell walls play roles. Mycobacteria may constitute food allergens or triggers of different chronic diseases in humans. The PathogenCombat project contributes to knowledge dissemination in the area of food safety and consumer protection. The detection of mycobacteria in food and in the environment and the development of new diagnostic methods and procedures for the control of paratuberculosis in cattle and sheep are important tools for increasing consumer protection. The project also strives to mediate an exchange of opinions and experience between the experts from different fields and contributes greatly to international collaboration.

The researchers at the Veterinary Research Institute have established and maintain a database of published results for the project. They were also significant contributors to the book The Ecology of Mycobacteria: Impact on Animal’s and Human’s Health. A round-table discussion on ‘Bacterial triggers in the etiology of Crohn’s disease and other autoimmune and autoinflammatory diseases’ is being organised by the PathogenCombat project, taking place in the Czech Republic in May 2009.

Partnership in an IP offers a unique opportunity for cooperation between project investigator teams, allows for communication of findings and the adoption of efficient ways of management and evaluation of research projects. The Czech representative on the PathogenCombat External Advisory Board uses the insights afforded by this position to contribute to the research management in the Czech Republic.

Project title
Control and prevention of emerging and future pathogens at cellular and molecular level throughout the food chain

Project acronym
PathogenCombat

Programme
FP6: ‘Food quality and safety’

Project type
IP

Project duration
60 months

EC contribution
EUR 11.27 million

Project coordination
Professor Mogens Jakobsen, The Royal Veterinary and Agricultural University, Copenhagen, Denmark

Czech partner
Professor Ivo Pavlik, Veterinary Research Institute, Brno

Partner countries
16

Partner institutions
44

Project website
http://www.pathogencombat.com

Project on CORDIS
You can access the factsheet of the project on the CORDIS website. Using the Advanced Search function, click on 'Projects'; then enter the project acronym in the acronym field.

http://cordis.europa.eu

research.eu focus — No 4 — May 2009
The Ecology of Mycobacteria: Impact on Animal’s and Human’s Health
The *Ecology of Mycobacteria* principally emphasizes the ecological characteristics of the environmental mycobacteria. It is now well understood that the incidence and prevalence of potentially pathogenic mycobacteria is increasing in humans and animals. Further, proof that mycobacteria are normal inhabitants of drinking water distribution systems and household water systems, indicates that humans and animals are surrounded by mycobacteria and thus at risk. It is anticipated that the emphasis on ecology and routes of infection will result in a text of widespread use for clinicians and for research scientists in medicine, academia, and industry. In addition to identifying habitats and thereby sources of mycobacteria infecting humans and animals, the text identifies those mycobacterial characteristics that determine its range of habitats. Additionally, the text comments critically on the available methods to identify those protocols with values in mycobacterial research. In that manner, although there are no chapters specifically devoted to methods, superior methods for mycobacteria will be identified.

A new text is needed for the mycobacteria because the prevalence of disease caused by the environmental potentially pathogenic mycobacteria is increasing. This increase is due to a number of factors. Host factors contribute to an increasing population of individuals more susceptible to mycobacterial infection. For example, the aging of the human population and the increasing frequency of immunosuppressed individuals as a result of infection (e.g. HIV), chemotherapy, and transplant-associated immunosuppression are all factors leading to increased susceptibility of infection with environment derived mycobacteria. Moreover, the role of mycobacteria as triggers in different autoimmune diseases is more and more evident. It is highly probable that peptidoglycans, lipoglycans, lipoproteins, heat shock proteins and some other structures from the mycobacterial cell wall, participate in different pathways of non-specific inflammatory reactions in humans, namely those with a specific genetic disposition. In such events mycobacteria in drinking water and food, even devitalized, have to be considered as a public health risk.

Second, human-engineered systems such as drinking water distribution systems are creating a habitat for the selection and proliferation of the potentially pathogenic mycobacteria. In as much as drinking water brings together overlapping habitats of both mycobacteria and humans and animals, a review of mycobacterial ecology is timely. The ecology of mycobacteria helps to understand the circulation of mycobacteria into the respective disciplines such as epidemiology, epizootology, immunology, environmental ecology, animal husbandry and environment conservation.
The Ecology of Mycobacteria: Impact on Animal's and Human's Health
Kazda, J., Pavlik, I., Falkinham III, J.O., Hruska, K.

Due: May 2009
approx. 119.95 €

About this book

The Ecology of Mycobacteria principally emphasizes the ecological characteristics of the environmental mycobacteria. It is now well understood that the incidence and prevalence of potentially pathogenic mycobacteria is increasing in humans and animals. Further, proof that mycobacteria are normal inhabitants of drinking water distribution systems and household water systems, indicates that humans and animals are surrounded by mycobacteria and thus at risk. It is anticipated that the emphasis on ecology and routes of infection will result in a text of widespread use for clinicians and for research scientists in medicine, academia, and industry. In addition to identifying habitats and thereby sources of mycobacteria infecting humans and animals, the text identifies those mycobacterial characteristics that determine its range of habitats. Additionally, the text comments critically on the available methods to identify those protocols with values in mycobacterial research. In that manner, although there are no chapters specifically devoted to methods, superior methods for mycobacteria will be identified.

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Written for:
Clinicians, nurses, fellows and interns with specialities in respiratory infection and diseases, HIV infection, geriatric medicine, cystic fibrosis, pulmonary alveolar poreiniosis, alpha-1 antitrypsin deficiency, immunologists, research scientists, farmers, breeders of livestock, agronomists, field veterinarians, consultants, public health personnel

Keywords:
- Environmental Mycobacteria
- Epidemiology
- Epizootiology
- Mycobacterial Ecology
- Potentially Pathogenic Mycobacteria
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