The Paratuberculosis Newsletter

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Table of Contents

DEADLINE FOR NEXT ISSUE: 15 May 2016

All contributions should be sent to saxmose@sund.ku.dk

Søren Saxmose Nielsen
Editor

1. IAP Business

IAP member support and recognition awards

Call for the 13 ICP Edition

Emeritus Awards

The status of Emeritus member of the IAP has the goal of acknowledging the merits of long standing members that have retired and that have made significant contributions to the goals of the Association. In order to continue fulfilling this objective for the 13 ICP, the IAP launches a call for nominations according to the following guidelines.

Award contents:

Up to 3 awards will be granted based on number and quality of nominees and available funds. Each award will include:

1. free full registration for the 13 ICP and following editions
2. free lifelong IAP membership
3. Up to US$1500.00 reimbursement for travel expenses (payable on arrival at the 13 ICP)
4. a certificate
5. a plate or plaque

Nominations must be written by an IAP member in good standing and should contain information on the nominees including the following points to be evaluated in order of decreasing importance:

Scientific merits	Qualitative (importance of knowledge generated on Map-related issues)
	Quantitative (number of papers produced, years working on paratuberculosis)
Responsibili-ties	National (positions held, advisory committees, researcher training, services provided, meetings organized, etc.)
	International (positions held, advisory committees, researcher training, services provided, meetings organized, etc.)
IAP involvement	National representation, offices held, colloquia organization, newsletter contributions, etc.
Other	Other merits not specified above

Nominations should be sent by e-mail to the Secretary-Treasurer of the IAP (rsweeney@vet.upenn.edu), and must include a letter containing all the information necessary for evaluation of the nominee as stated above. This document shall be an attached Word or Adobe pdf file blocked for changes. The IAP Member Support and Recognition Committee will evaluate the applications in the name of the IAP and its decisions are final.

Timetable:

Deadline for nominations: March 15, 2016

Announcement of awards: April 15, 2016

Richard Merkal Memorial Fellowship

The Association will provide funding for the participation of two graduate students to attend each Colloquium of the Association. Selection of will be based on potential for future contributions to the field and scientific merit of a submitted abstract. Funding will include air fare, lodging, general registration and a per diem for meals. All applicants must be members of the Association or sponsored by a member of the Association. The fellowships will not be open to applicants having residence in same country in which the Colloquium is being held.

Award contents:

Up to Two Fellowships will be granted.

Each fellowship will include:

1) free full registration for the 13 ICP

2) Reimbursement for travel and lodging expenses, and a *per diem* for meals. (Maximum reimbursement not to exceed US$3000.)

3) a certificate

4) a plate

Timetable:

Deadline for nominations: March 15, 2016

Announcement of awards: April 15, 2016

Application for Richard Merkal Fellowship to attend the 13th International Colloquium on Paratuberculosis (13 ICP) in Nantes, France, June 22-26, 2016

Name:

Date of Birth:

Educational Qualifications:

Current affiliation:

Institution:

Country:

Group leader:

Publications in Paratuberculosis Research:

Abstract of intended presentation:

STATEMENT OF PURPOSE AND IMPORTANCE OF RESULTS TO BE PRESENTED

Applications should be sent by e-mail addressed to the Secretary-Treasurer of the IAP (rsweeney@vet.upenn.edu), and must include the completed forms provided in the call applications as an attached Word or Adobe pdf file blocked for changes. The IAP Member Support and Recognition Committee will evaluate the applications in the name of the IAP and its decisions are final.

Helping Hand Fellowships

The Association, based on the availability of funds and as determined by the Governing Board, will provide funding for up to 5 individuals from lower income countries to participate in each Colloquium of The Association. Selection of these individuals will be based on the economic status of the individual's country of origin, a written statement of interest in paratuberculosis, potential for future contributions to the field, and scientific merit of a submitted abstract if one has been submitted (abstract submission is not required).

Program specifications:
Up to 5 awards will be granted based on the number and quality of applicants and the available funds.
Each award will include:

1) free full registration for the 13 ICP
2) free IAP membership for 2016 and 2017
3) US$1000 stipend for travel expenses (payable in cash on arrival at the 13 ICP)
4) a certificate

Timetable:
Deadline for nominations: March 15, 2016
Announcement of awards: April 15, 2016

Criteria (listed in order of decreasing importance):

1. Country of origin. Strong preference will given to applicants currently residing in countries not considered "high income" based on the website of the World Bank (http://www.worldbank.org/data/countryclass/countryclass.html). Applicants originally from countries not considered "high income" but currently residing in "high income" countries will be considered only in the case that there were not enough candidates from the first category.
2. Statement of purpose. The applicant must provide a written statement (in English) explaining their interest and experience in paratuberculosis, what they know of the paratuberculosis situation in their country, and why they would like to attend the 13 ICP.
3. 13 ICP abstract. An abstract for a presentation at the 13 ICP concerning any aspect of paratuberculosis is mandatory for applicants from countries that have already received two or more HH awards during the last 5 year period. For applicants from other countries, abstract would we positively considered but will is not mandatory.
4. Applicant status: Applicants must be longstanding members of the IAP or, in the case of young students, must be nominated by a member in good standing for the last 5 years.

5. Young researchers are encouraged to apply and will be prioritized. Senior candidates will be considered only if there are not enough qualified junior applicants.
6. Repeated awards. The number of times that the same person can receive an H&H award is 3 in order to reach a broader range of researchers. In case of tie, applicants that have already received an H&H award will have lower priority than those not having received any.
7. Number of awards per country. No more than 2 awards will go to the same country while there are applicants from countries with less than that number of applications.
8. Number of awards to the same group/institution. Priority will be given to awarding members of different groups. No more than 2 awards will go to the members of the same research group while there are applicants from other groups.
9. Up to two special HH awards could be granted for students from any country with an outstanding career and presenting a highly innovative abstract provided that there are not 5 or more successful applicants to the regular awards.

Application for Helping Hand Fellowship to attend the 13th International Colloquium on Paratuberculosis (13 ICP) in Nantes, France, June 22-26, 2016

Name:
Country of origin:
Date of Birth:
Educational Qualification:
Current affiliation:
    Institution:
    Country:
    Group leader:
Ph.D Thesis Title:
Area of Paratuberculosis Research:
Publications in Paratuberculosis Research:
STATEMENT OF PURPOSE
ABSTRACT

Applications should be sent by e-mail addressed to the Secretary-Treasurer of the IAP (rsweeney@vet.upenn.edu), and must include the filled in forms provided in the call as an attached Word or Adobe pdf file blocked for changes. The IAP Member Support and Recognition Committee will evaluate the applications in the name of the IAP and its decisions are final.

2. Opinions

How MAP becomes Crohn's disease

Gilles R. G. Monif, M.D.

Any claim for causation of Crohn's disease must address four key issues:

1. Why the sudden onset of disease in the twentieth century;
2. Why its epidemic spread;
3. Why limited sites of involvement within the gastrointestinal tract; and
4. Why the significant variability with respect to the age of onset.

An answer to each of these questions resided within the Hruska Postulate (1,2).
The mechanisms by which *Mycobacterium avium* subspecies *paratuberculosis* (MAP) produces Johne's disease in cattle and diarrhea in humans with advanced retro-virus infection and that by which it produces Crohn's disease and possibly irritable bowel syndrome are significantly different.

The Hruska Postulate

The Hruska Postulate states that Crohn's disease is the consequence of the body's fixed pro-inflammatory immune response when represented with MAP (1). Creation of a population at risk for the future development of Crohn's disease and the induction of disease by MAP are said to occur through two synergistically functioning processes. (1,2)
First, MAP must infect newborns within the first weeks of the neonatal period. At that time, a baby's acquired immunity is largely absent. In terminating MAP's replication, immune tolerance to MAP's antigenic array is lost. Inherent immunity's pro-inflammatory response to MAP becomes fixed within immunological memory. (2) Every time the body's immune system is re-challenged by MAP, it again responds by elaborating pro-inflammatory cytokines. The cytotoxic cytokines attack MAP at its sites of intestinal attachment and antigen processing.

Why the Sudden Appearance of Crohn's Disease

The answer resides in the superimposition of two events: MAP infection in the relative absence of gut acquired immunity and the widespread dissemination of MAP within a nation's food supply.
Documentation of the period of vulnerability for disease induction resides with well documented studies demonstrating the protective effect of breastfeeding against the future development of Crohn's disease. (3-8) In populations where breast feeding is an economical necessity, Crohn's disease is rare (1,2).
Given the regenerative capacity of the gastrointestinal tract's lining mucosa, occasional antigen challenges by MAP would be of limited significance. Frequent, closely spaced

challenges are theorized to be requisites for mucosa denudement. Loss of this anatomical barrier allows the gastrointestinal microbiota access to the underlying tissues. As illustrated in the United States, the epidemic of Crohn's disease in the general population appeared after widespread dissemination of MAP within a country's milk producing herds. .

Why the Epidemic Spread of Crohn's Disease

The epidemic expansion of Crohn's disease is theorized to be the consequence of recruitment of a population at risk by the use of MAP adulterated baby formula for early infant feeding. (9-11)

MAP is not neutralized by pasteurization. Milk, powdered milk, cheese, and infant formula have the potential to be adulterated by MAP. (11-14) Progressive substitution of infant formula in lieu of breast feeding and its administration during the neonatal period are postulated to have created an expanding population at risk for the future development of Crohn's disease. In 2005, 49% of 51 brands of baby formula manufactured by different producers in seven different countries were demonstrated to contain MAP DNA. (9,10) The widespread presence of MAP within the U.S. milk-based food supply is argued to be the catalyst that transforms the potential for Crohn's disease into clinical disease.

Why Limited Sites of Tissue Disease within the Gastrointestinal Tract

The predominant sites of cytokine-induced tissue destruction reside in those areas that achieve maximum fecal stasis. If Crohn's disease was the product of an autoimmune process directed against the lining epithelium, the resultant histopathology would be widespread throughout the gastrointestinal tract.

Why the Variability in Onset of Disease

Disease is the consequence of an inoculum size modified by the pathogen's virulence that surmounts host immunity. The variability between the amount of MAP that establishes neonatal infection and the genetically determined capacity of host immunity modulates the intensity of the elicited pro-inflammatory response to MAP and hence the intensity of cytokine elaboration severity of clinical expression. The frequency of MAP is the other variable that determines age of onset.

Given the absence of plausible alternate theories of causation, the Hruska Postulate becomes the template for breaking the cycle of events that fuel the global Crohn's disease epidemic.

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