

AMEBIASIS MONTREAL 2010 WORKSHOP

Molecular approaches and clinical aspects

September 22 - 24th, 2010

Hotel Le Crystal, Montreal, Canada

Wednesday September 22nd

- 7:00 - 08:45 Breakfast and Registration
- 9:00 - 17:00 **Session 1: *Clinical and oral aspects of amoebiasis***
Chairs: Mark Bonner (Canada) and Elisabeth Labruyère (France)
- 9:00 - 10:00 *Use of Microscopy in Oral Amoebiasis and Periodontal Disease*
Mark Bonner. Montreal, Canada
- 10:00 - 11:00 *Clinical Cases of Oral Amoebiasis*
Veronique Amar. Paris, France
- 11:00 - 11:15 Coffee Break
- 11:15 - 12:15 *Molecular Epidemiology of Amoebiasis in Mexico*
Cecilia Ximenez. UNAM, Mexico
- 12:15 - 12:30 Discussion
- 12:30 - 13:30 Lunch
- 13:30 - 14:30 *Early Events in the Pathogenesis of Amoebiasis*
Elisabeth Labruyère. Institut Pasteur, France
- 14:30 - 15:30 *Macrophages Growth Factor in Amoebiasis Recovery*
Mineko Shibayama. NPI, Mexico
- 15:30 - 15:45 Coffee Break
- 15:45 - 16:45 *Vaccine Development Against Amoebiasis*
Kris Chadee. Calgary, Canada
- 16:45 - 17:00 Discussion
- 19:00 Dinner

Thursday September 23rd
Bimolecular Presentations

- 07:00 - 08:45 Breakfast and Registration
- 08:45 - 09:00 Welcoming Comments: Mark Bonner and Kris Chadee
- 09:00 - 12:25 **Session 2: Genetic and Epidemiology**
Chairs: N. Hall (England) and E. Tannich (Germany)
- 09:00 - 09:20 *Genome-wide diversity of Entamoeba histolytica among geographically and phenotypically diverse strains.* Gareth D. Weedall, Graham Clark, Steve Paterson, Neil Hall.
- 09:20 - 09:40 *Insights into the genomic diversity of Entamoeba histolytica through sequencing and comparative genomic analysis of clinically relevant isolates.* Elisabet Caler, Hernan Lorenzi, Linda Hannick, Ibne Karim, Bill Petri.
- 09:40 - 10:00 *Genome sequencing and comparative analysis of Entamoeba moshkovskii.* Gareth Weedall, Graham Clark, and Neil Hall
- 10:00 - 10:20 *Genotyping clinical isolates of Entamoeba histolytica and Entamoeba dispar by applying tRNA STR repeat unit genotyping method.* Krishna Khairnar, Irving Salit, Dylan Pillai
- 10:30 - 11:00 Coffee Break
- 11:05 - 11:25 *Lethal Entamoeba nuttalli outbreaks in captive monkeys of two German zoos.* Nicole Schauerte, Christiana Hensel, Heidrun von Thien, Egbert Tannich
- 11:25 - 11:45 *A high throughput drug screen identified amebicidal small molecules and offered drug reprofiling opportunity for the treatment of amebiasis.* Anjan Debnath, Chen He, Steven Chen, Michelle R. Arkin, Sharon L. Reed, James H. McKerrow
- 11:45 - 12:05 *Signals of Entamoeba dispar in human liver abscess using intergenic sequences.* Rene Cerritos, Liliana Rojas, Silvio Dolabella, Patricia Morán, Mineko Shibayama, Enrique González, Alicia Valadez, Eric Hernández, Olivia Valenzuela, Edgar Rascón, Angélica Limón, Oswaldo Partida, Edwards F. Silva, Cecilia Ximénez
- 12:05 - 12:25 *The effect of altered Pi3-kinase signaling on metronidazole sensitivity in Entamoeba histolytica.* Rhonda R. Powell, Amrita B. Koushik, Lesly Temesvari

12:45 - 13:45 Lunch

13:45 - 16:45: **Session 3: Cell Biology**

Chairs: A. Bhattacharya (India) and T. Nozaki (Japan)

13:45 - 14:05 *Ehhmbp26 and Ehhmbp45 proteins are secreted by Entamoeba histolytica to bind heme with high affinity.* Olivares-Trejo José de Jesús, Cruz-Castañeda Areli, Hernández-Sánchez Javier, Azuara-Liceaga, Elisa, López-Casamichana, Mavil

14:05 - 14:25 *Characterization of the calcium binding protein EHC2A of Entamoeba histolytica.* Nicole M. Mackey-Lawrence, Heriberto Moreno, Carol A. Gilchrist, William A. Petri, Jr.

14:25 - 14:45 *Entamoeba histolytica encodes novel F-actin binding kinesin proteins.* Jaspreet Singh Grewal, Anuradha Lohia

14:45 - 15:05 *Diversity and significance of vesicular trafficking in Entamoeba histolytica.* Yumiko Saito-Nakano, Mami Okada, Gil Mallari Penuliar, Yuki Hanadate, Carol A. Gilchrist, Oswald Crasta, William A. Petri, Jr., Zhangjun Fei, Nino Trapaidze, Tomoyoshi Nozaki

15:05 - 15:25 Coffee Break

15:25 - 15:45 *Encystation and excystation in vitro of Entamoeba histolytica under axenic conditions.* María Porfiria Barrón González, Mario Rodolfo Morales Vallarta

15:45 - 16:05 *Analysis of the expression chitinases CHI1, CHI2 and CHI3 genes in Entamoeba invadens encystment process.* Gabriela Garcia, Fernando Ramos, Rodrigo Gutierrez, Jorge Yañes, Paul Gaytan

16:05 - 16:25 *Metabolomic analysis of Entamoeba: discovery of unique pathways and potential targets for chemotherapy.* Tomo Nozaki, Afzal Husain, Ghulam Jeelani, Dan Sato, Makoto Suematsu, Tomoyoshi Soga

16:25 - 16:45 *Entamoeba histolytica B1 family of transmembrane kinases.* Shiteshu Shrimal, Sudha Bhattacharya, Alok Bhattacharya

16:45 - 18:30 **Poster Session and Late Breaking Posters (Abstracts)**

List of presentations are at the end of the program

19:30 Dinner

Friday September 24th

07:00 - 08:30 Breakfast

08:30 - 12:45 **Session 4: Immunology and Host Defense**

Chairs: B. Petri (USA) and C. Ximenez (Mexico)

08:30 - 08:40 *Innate immune response in primary amoebic meningoencephalitis produced by Naegleria fowleri.* M Shibayama, V Tsutsumi, S Galindo-Gómez, J Serrano-Luna

08:40 - 09:10 *Goblet cell secretions in innate host defense against Entamoeba histolytica.* Vanessa Kissoon-Singh, France Moreau, Kris Chadee

09:10 - 09:30 *Leptin mediates mucosal immunity to Entamoeba histolytica infection in children.* Priya Duggal, X Guo, R Haque, K M. Peterson, S Ricklefs, D Mondal, F Alam, Z Noor, HP Verkerke, C Marie, MR Roberts, SM. Becker, B Podd, C A Leduc, S C. Chua, Jr, M G Myers Jr, R L Leibel, E Houpt, C A Gilchrist, A Sher, S F. Porcella, WA. Petri, Jr

09:30 - 09:40 *Leptin regulates mucosal immune defense to E. histolytica by a STAT3-dependent mechanism.* Chelsea S. Marie, Hans P. Verkerke, William A. Petri Jr.

09:40 - 10:10 *An intranasal Gal-lectin subunit vaccine is protective against experimental E. histolytica infection and invasive colitis in baboons (papiosp.).* Mohamed D. Abd Alla, Roman Wolf, Gary L. White, Stanley D. Kosanke, David Cary, Jaco J. Verweij, Mie-Jie Zhang, and Jonathan I. Ravdin

10:15 - 10:45 Coffee Break

10:45 - 11:05 *Phenotypic maturation of dendritic cells in response to ameba secreted components.* Leanne Mortimer and Kris Chadee

11:05 - 11:25 *Cytokine production during amoebic liver abscess using hamster model.* Pacheco-Yépez, J M Galván-Moroyoqui, I Meza, S Galindo Gomez, V Tsutsumi, M Shibayama

11:25 - 11:45 *Purification and characterization of an amebic protein complex with serine protease activity.* González Canto Augusto, Salaiza Suazo Norma, Arreguín Espinosa Roberto, López Vancell Rosario, Pérez Tamayo Ruy

11:45 - 12:05 *In vitro morphological and ultrastructural damage to Entamoeba histolytica by myeloperoxidase.* R Campos-Rodríguez, V Rivera-Aguilar, E Barbosa-Cabrera, RA Jarillo-Luna, A Rondán-Zárate, Pacheco-Yépez

- 12:05 - 12:25 *Mechanism of trifluoromethionine resistance in Entamoeba histolytica.* Gil Penuliar, Tomoyoshi Nozaki
- 12:25 - 12:45 *Exposure to cholesterol or collagen induces redistribution of the heavy and light chains of the Gal/GalNAc lectin from actin-rich membrane to lipid rafts in Entamoeba histolytica.* Brenda H. Welter, Amanda M. Goldston, Lesly A. Temesvari
- 13:00 - 14:00 Lunch
- 14:00 - 17:25 **Session 5: Pathogenesis**
Chairs: N. Guillen (France) and S. Reed (USA)
- 14:00 - 14:20 *Prostaglandin E₂ produced by Entamoeba histolytica alters human colonic epithelial tight junction.* Manigandan Lejeune, Kris Chadee
- 14:20 - 14:40 *Strategies used by Entamoeba histolytica, the agent of amoebiasis, to invade human tissues.* D Perdomo, J Santi-Rocca, C Weber and N Guillén, J-Y Copéée, M-A Dillies, O Sismeiro, P England, B Baron, B Raynal
- 14:40 - 15:00 *Proteomic and genomic analysis of C1q-induced phagocytosis in Entamoeba histolytica.* Archana Vaithilingam, Adam Sateriale, Vipul Patel, Jose Teixeira, Christopher Huston
- 15:00 - 15:20 *Entamoeba histolytica calreticulin: an endoplasmic reticulum protein expressed by trophozoites in experimentally induced amoebic liver abscess.* Enrique González, Ma del Carmen Garcia de Leon, A Olivios, R Ocádiz-Delgado, P Gariglio, A Silva-Olivares, M Shibayama, P Morán, A Valadez, A Limón, L Rojas, E G Hernández, R Cerritos, O Partida, E Rascón, O Valenzuela, C Ximenez
- 15:20 - 15:45 Coffee Break
- 15:45 - 16:05 *Specific inhibition of a novel Entamoeba histolytica cysteine proteinase, EhCP4, blocks amebic invasion in vivo.* Chen He, George Nora, Ken Hirata, Charles Craik, WR. Roush, James McKerrow, Sharon L. Reed
- 16:05 - 16:25 *Calpain-dependent degradation of transcription of transcription factors and x-linked inhibitor of apoptosis (XIAP) in colonic epithelial cells during cell death induced by Entamoeba histolytica.* Myeong Heon Shin, Kyeong Ah Kim, Young Ah Lee
- 16:25 - 16:45 *Entamoeba histolytica acidic intracellular vesicles: delivery vehicles for effectors of host cell death?* Katherine S. Ralston, William A. Petri, Jr.

- 16:45 - 17:05 *Erythrophagocytosis: structural and functional analysis of the Entamoeba histolytica EhrabB gene promoter.* Mario Hernandez Alejandro, Mónica Romero-Díaz, Mario A Rodríguez
- 17:05 - 17:25 *Genome-wide shRNA screen identifies human host factors crucial for Entamoeba histolytica cytotoxicity.* Chelsea Marie, D Theodorescu, WA. Petri, Jr.
- 17:25 Closing remarks.
- 19:30 Farewell Dinner

LIST OF POSTERS

1. *EhMSP-1, a novel E. histolytica surface metalloprotease with homology to the immunodominant Leishmania protein leishmanolysin.* Teixeira Jose1, Huston Christopher.
2. *Disruption of tight junction proteins in MDCK cells induced by Naegleria fowleri trophozoites.* Serrano-Luna, J, Castillo M, Silva-Olivares A, Narváez-Morales J, Tsutsumi V, and Shibayama M.
3. *TLR 2 and 4 single nucleotide polymorphism in amoebic liver abscess of two Mexican populations.* Oswaldo Partida-Rodríguez, Eric G. Hernández, Carmen Maldonado Bernal, Olivia Valenzuela, Edgar A. Rascón Castelo, Liliana Rojas, Angélica Limón, Alicia Valadez, René Cerritos, Enrique González, Patricia Morán, Cecilia Ximénez.
4. *In vitro anti-amoebic activities of fractions from a medical plant from Cameroon.* Melanie F.G.Kamini, Njoya E1, Donfack H1, Bilong-Bilong C Felix, Moundipa F. Paul, Egbert T, Bruchhaus I.
5. *Genotyping of E. histolytica species from amoebic liver abscess from two geopgraphic regions in Mexico.* Edgar Rascón, René Cerritos, Patricia Morán, Liliana Rojas, Olivia Valenzuela, Enrique González, Oswaldo Partida, Eric Hernández, Alicia Valadez, Angélica Limón, Ma Carmen Garcia, Cecilia Ximénez.
6. *Ehhmbp26 and Ehhmbp45 proteins are involved in hemoglobin and heme acquisition in Entamoeba histolytica.* Cruz-Castañeda Areli, Hernández-Sánchez Javier, Azuara-Liceaga, Elisa, López-Casamichana, Mavil, Olivares-Trejo José de Jesús.
7. *Antiamoebic activity of Eucalyptus camaldulensis and Jatropha dioica.* María Porfiria Barrón González, Nallely Sarai Corrujedo Morales, Ruth Amelia Garza Padrón, Ma. Eufemia Morales Rubio, Ramón Gerardo Rodríguez Garza, Mario Rodolfo Morales Vallarta.

8. Antiamoebic effect of methanolic extracts from in vitro *Astrophytum capricorne* callus and stem. Ruth Amelia Garza Padrón, María Porfiria Barrón González, Ma. Eufemia Morales Rubio, Jaime Francisco Treviño Neávez, Ramón Gerardo Rodríguez Garza, Mario Rodolfo Morales Vallarta.

9. Polymorphism of *HLA-DRBI* and *HLA-DQB1* in patients with amoebic liver abscess caused by *Entamoeba histolytica* in the Mexican population. Eric G. Hernández Oswaldo Partida, Olivia Valenzuela, Alberto López, Liliana Rojas, Patricia Morán, Enrique González, Alicia Valadez, Rene Cerritos, Edgar Rascón, Julio Granados, Cecilia Ximénez