i News

iii In the Literature

ARTICLES AND COMMENTARIES

817 Comprehensive Molecular Testing for Respiratory Pathogens in Community-Acquired Pneumonia
Naomi J. Gadsby, Clark D. Russell, Martin P. McHugh, Harriet Mark, Andrew Conway Morris, Ian F. Laurence, Adam T. Hill, and Kate E. Templeton

This is the first time a comprehensive, multipathogen, quantitative and qualitative molecular approach for respiratory bacteria and viruses has been compared with traditional diagnostic methods on a large hospitalized pneumonia cohort, with estimation of potential effects on antibiotic prescribing.

824 Editorial Commentary: Quantitative Molecular Approach to Diagnosing Pneumonia
Daniel M. Musher

826 Editorial Commentary: The Modern Quest for the “Holy Grail” of Pneumonia Etiology
Seema Jain and Andrew T. Pavia

829 Maternal Immunization Earlier in Pregnancy Maximizes Antibody Transfer and Expected Infant Seropositivity Against Pertussis
Christiane S. Eberhardt, Geraldine Blanchard-Rohner, Barbara Lemaitre, Meriem Boukrid, Christophe Combescure, Véronique Othenin-Girard, Antonina Chilin, Jean Petre, Beguña Martínez de Tejada, and Claire-Anne Siegrist

Guidelines recommend that pregnant women be vaccinated against pertussis between gestational weeks 26 and 36. We show that this narrow window can be widened, as optimal neonatal antibody concentrations and expected infant seropositivity rates are elicited between weeks 13 and 33.

837 The Performance of a Rapid Diagnostic Test in Detecting Malaria Infection in Pregnant Women and the Impact of Missed Infections
John E. Williams, Matthew Cairns, Fanta Njie, Stephen Laryea Quaye, Timothy Aweke, Abraham Odouro, Harry Tagbor, Kalifa Bojang, Pascal Magnusson, Feiko O. ter Kuile, Arouna Woukeu, Paul Milligan, Daniel Chandramohan, and Brian Greenwood

The sensitivity of a rapid diagnostic test (RDT) for malaria was compared with that of a polymerase chain reaction assay in pregnant West African women. The sensitivity of the RDT was high at enrollment but lower at delivery.

845 The Impact of Obesity and Diabetes on the Risk of Disease and Death due to Invasive Group A Streptococcus Infections in Adults
Gayle Langley, Yongping Hao, Tracy Pondo, Lisa Miller, Susan Petit, Ann Thomas, Mary Louise Lindegren, Monica M. Farley, Ghinwa Dumyati, Kathryn Como-Sabetti, Lee H. Harrison, Joan Baumbach, James Watt, and Chris Van Beneden

In a population-based analysis, diabetes in all races and extreme obesity in whites were associated with increased risk of invasive group A Streptococcus (iGAS). Obesity, but not diabetes, was associated with increased odds of death in persons with iGAS.
Body Composition Changes After Initiation of Raltegravir or Protease Inhibitors: ACTG A5260s
Grace A. McCormsey, Carlea Moser, Judith Currier, Heather J. Ribaudo, Pawel Paczuski, Michael P. Dubé, Theodores Kelesidis, Jennifer Rothenberg, James H. Stein, and Todd T. Brown

This randomized trial compared peripheral and central fat changes 96 weeks after a first-line regimen containing darunavir/ritonavir, atazanavir/ritonavir, or raltegravir. Similar and significant increases were seen in all arms. Pre-treatment HIV-1 RNA level was the strongest predictor of fat gains.

A Necrotizing Enterocolitis-Associated Gut Microbiota Is Present in the Meconium: Results of a Prospective Study
Fardou H. Heida, Anne G. J. F. van Zoonen, Jan B. F. Hulscher, Bastiaan J. C. te Kieft, Rianne Wessels, Elisabeth M. W. Kooi, Arerd F. Bos, Hermie J. M. Harmsen, and Marcus C. de Goffau

Development of necrotizing enterocolitis (NEC) has been associated with altered intestinal bacterial colonization. Via a prospective case-control study a NEC-associated gut microbiota was identified in meconium samples. Clostridium perfringens and Bacteroides dorei are associated with NEC development starting immediately after birth. In post-meconium samples increased numbers of staphylococci are negatively associated with NEC.

Overwhelming Postsplenectomy Infection: A Prospective Multicenter Cohort Study
Christian Theilacker, Katrin Ludewig, Annereose Ser, Julia Schimpf, Jürgen Held, Martin Börgelein, Viola Bahr, Stephan Rusch, Annette Pohl, Klaus Kogelmann, Sigrun Frieseke, Ralph Bogdanski, Frank M. Brunkhorst, and Winfried V. Kern; for the Splenectomy, Klaus Kogelmann, Sigrun Frieseke, Ralph Bogdanski, Jürgen Held, Martin Bögelein, Viola Bahr, Stephan Rusch, Annette Pohl, Klaus Kogelmann, Sigrun Frieseke, Ralph Bogdanski, Frank M. Brunckhorst, and Winfried V. Kern; for the Splenectomy, Pneumococcus, and Fulminant Infection (SPLEEN OFF) Study Group

In a prospective cohort study, pneumococci were the most frequent cause of severe sepsis or septic shock in asplenic patients, accounting for 42% of infections. Most patients with pneumococcal sepsis had not received pneumococcal vaccination and many developed purpura fulminans.

Persistent Infections by Nontyphoidal Salmonella in Humans: Epidemiology and Genetics
Alex Marzel, Prerak T. Desai, Alina Goren, Yosef Ilan Schorr, Israel Nissan, Steffen Povorililk, Lea Valinsky, Michael McClelland, Galia Rahav, and Ohad Gal-Mor

A subgroup of patients infected with nontyphoidal Salmonella develops a persistent infection. Most of these are presented as symptomatic relapse gastroenteritis, illuminating a previously overlooked manifestation. During persistence, Salmonella gains genetic and phenotypic changes, affecting antibiotic resistance, and host-pathogen interactions.

Surgery as an Adjunctive Treatment for Multidrug-Resistant Tuberculosis: An Individual Patient Data Metaanalysis
Gregory J. Fox, Carole D. Mitnick, Andrea Benedetti, Edward D. Chan, Mercedes Becerra, Chen-Yuan Chang, Salmaan Keshavjee, Won-Jung Koh, Yui Shiraishi, Pinet Vilileps, Jae-Joon Yim, Geoffrey Pavol, Jerome Robert, Tae Sun Shim, Sonya S. Shin, and Dick Menzies; for the Collaborative Group for Meta-Analysis of Individual Patient Data in MDR-TB

Partial lung resection, but not pneumonectomy, was associated with improved treatment success among patients with multidrug-resistant tuberculosis. Although improved outcomes may reflect patient selection, partial lung resection after culture conversion may improve treatment outcomes, alongside optimal medical therapy.

Improved Diagnosis of Acute Pulmonary Histoplasmosis by Combining Antigen and Antibody Detection
Sarah M. Richer, Melinda L. Smedema, Michelle M. Durkin, Katie M. Herman, Chadi A. Hage, Deanna Fuller, and L. Joseph Wheat

Detection of immunoglobulin M (IgM) and immunoglobulin G (IgG) antibodies by enzyme immunoassay improves the sensitivity for the diagnosis of acute pulmonary histoplasmosis. The highest sensitivity was achieved by testing for antigen and of IgM and IgG antibodies.

Dilemmas in Managing Pregnant Women With Ebola: 2 Case Reports
Séverine Caluwaerts, Tessa Fautsch, Daphne Lagrou, Michel Moreau, Aissey Modet Camara, Stephan Günther, Antonino Di Caro, Benny Borremans, Fara Raymond Koundouno, Joseph Akoı Bore, Christopher H. Logue, Martin Richter, Roman Wölfel, Eeva Kuksa, Andreas Kurth, Stephen Thomas, Gillian Burkhardt, Elin Erland, Fanshen Lionetto, Patricia Lledo Weber, Olimpia de la Rosa, Hassan Macpherson, and Michel Van Herp

PHOTO QUIZ

A 19-Year-Old Woman With Fever, Cough, and a Rash
(Answer on pages 945–6.)

CLINICAL PRACTICE

Establishing a Fecal Microbiota Transplant Service for the Treatment of Clostridium difficile Infection
Samuel P. Costello, Emily C. Tucker, Justin La Brooy, Mark N. Schoeman, and Jane M. Andrews

Although fecal microbiota transplant (FMT) is a highly effective therapy for recurrent Clostridium difficile infection, numerous technical, logistical, and regulatory issues have hampered development of FMT capability at many sites. We describe how to establish such a service using a frozen stool bank.

HIV/AIDS

The Epi-TAF for Tenofovir Disoproxil Fumarate?
Rochelle P. Walensky, Tim H. Horn, and A. David Paltiel

While the clinical case for tenofovir alafenamide (TAF) over tenofovir disoproxil fumarate (TDF) appears solid, we find that the increased cost that TAF might merit over TDF is modest, ~$1000. Under alternative assumptions where TDF toxicity leads to fewer events or better quality of life, or when TDF becomes generically available, the defensible price differential related to TAF may be even smaller.
HIV/AIDS

919 How Generalizable Are the Results From Trials of Direct Antiviral Agents to People Coinfected With HIV/HCV in the Real World?
Sahar Saeed, Erin C. Strumpf, Sharon L. Walmsley, Kathleen Rollat-Kurhajec, Neora Pick, Valerie Martel-Lafreniere, Mark Hull, M. John Gill, Joseph Cox, Curtis Cooper, and Marina B. Klein; for the Canadian Co-Infection Cohort Study

Trial results are used to support licensure, inform cost-effectiveness analyses, and guide clinical decision making. We found the majority of coinfected patients were not included in clinical trials of direct-acting antivirals, raising concerns about the generalizability of these trial results.

927 Editorial Commentary: Interferon-free Hepatitis C Treatment Efficacy From Clinical Trials Will Translate to “Real World” Outcomes
Marianne Martinello and Gregory J. Dore

929 Concordance of HIV-1 RNA Values by Amplicor and TaqMan 2.0 in Patients With Confirmed Suppression in Clinical Trials
Will Garner, Kirsten White, Javier Szwarzberg, Scott McCallister, Lijie Zhong, and Mike Wulfsohn

Discordant viremia results near human immunodeficiency virus type 1 RNA 50 copies/mL by the TaqMan 2.0 assay led to significantly lower efficacy rates in clinical trials and increased patient management decision points compared with the historical standard Amplicor assay.

935 Retention in Care and Patient-Reported Reasons for Undocumented Transfer or Stopping Care Among HIV-Infected Patients on Antiretroviral Therapy in Eastern Africa: Application of a Sampling-Based Approach
Elvin H. Geng, Thomas A. Odeny, Rita Lyamuya, Alice Nakiwogga-Muwanga, Lameck Diero, Mwebesa Bwana, Paula Braitsstein, Geoffrey Somi, Andrew Kambugu, Elizabeth Bukusi, Megan Wenger, Torsten B. Neilands, David V. Glidden, Kara Wools-Kaloustian, Constantin Yiannoutsos, and Jeffrey Martin; for the East Africa International Epidemiologic Databases to Evaluate AIDS (EA-IdEa) Consortium

Retention after starting antiretroviral therapy is best understood by examining multiple outcomes including stopping care, deaths in care, deaths out of care, and silent transfers.

CORRESPONDENCE

947 Addressing the Needs of Youth With HIV Infection in the Era of Combination Antiretroviral Therapy
Joseph S. Cervia

947 First Real Life Evidence of New Direct-acting Antivirals (DAA) in Co-infected HIV HCV Patients: Better than Ever
Amélie Menard, Philippe Colson, Dhiver Catherine, Ravaux Isabelle, Tomei Christelle, Line Meddeb, Souad Ben Ali, Caroline Solas, and Andreas Stein

949 Reply to Menard et al
Stephen D. Shafran

950 Fungal Outbreaks and Infection Prevention During Demolition: Influence of High-Efficiency Particulate Air Filtration
Philippe Saliou, Marie Uguen, Hervé Le Bars, Lénaïg Le Clech, and Raoul Baron

951 Reply to Saliou et al
Hajimo Kanamori, William A. Rutala, Emily E. Sickbert-Bennett, and David J. Weber

951 Ruxolitinib Induces Interleukin 17 and Ameliorates Chronic Mucocutaneous Candidiasis Caused by STAT1 Gain-of-Function Mutation
Rotraut Mössner, Nina Diering, Oliver Bader, Susann Forkel, Tobias Overbeck, Uwe Gross, Bodo Grimbacher, Michael P. Schön, and Timo Buhl

953 Vertebral Osteomyelitis Guidelines
Joshua Fierer

954 Reply to Dr Fierer
Elie F. Berbari, Souha S. Kanj, Todd J. Kowalski, Rabih O. Darouiche, Andreas Widmer, Steven K. Schmitt, Edward Hendershot, Paul Holtom, Paul Huddleston III, Gregory Petermann, and Douglas Osmon

954 Etiology of Cellulitis and the Validity of New and Old Methods
Trond Bruun, Oddvar Oppegaard, Bård R. Kittang, Haima Mylvaganam, Nina Langeland, and Steinar Skrede

955 Reply to Bruun et al
David A. Talan, Jonathan G. Crisp, and Gregory J. Moran