35th Annual Rocky Mountain AACC Section Conference Report

Merrill Emmett, Chair
Rocky Mountain Section

Program

Location: The Children's Hospital, Aurora, CO

Monday, March 1, 2010

7:30-8:15 AM Registration
Continental Breakfast

8:15-8:30 Welcome & Opening Remarks
Merrill Emmett, Chair

8:30-9:30 Cystic Fibrosis vs PCD: Clinical and Testing Comparisons
Scott Sagel, MD
Associate Director
Pediatric Cystic Fibrosis Center
University of Colorado Denver

Abstract: Mucociliary clearance is the primary defense mechanism for the lung. Inhaled particles, including microbial pathogens, are entrapped in mucus on the airway surface, and, then, cleared by the coordinated action of cilia. The volume and composition of airway surface liquid influence the efficiency of ciliary function and mucus clearance. The two main genetic diseases of mucociliary clearance include disorders of ion transport (cystic fibrosis, CF) and disorders in ciliary function (primary cliliary dyskinesia, PCD). This talk will review the genetics and underlying protein defects in CF and PCD, compare the clinical manifestations characteristic of each disorder, and describe the diagnostic approaches to CF and PCD.

9:30-9:45 Break

9:45-10:45 Recent Developments in Laboratory Testing for Acute Myocardial Ischemia. Is Troponin Still Relevant?
Geza Bodor, MD
Section Chief
Chemistry & Molecular Laboratories
VA Medical Center, Denver

Abstract: Cardiac troponins have been the mainstay of laboratory diagnosis of ischemic myocardial injury for well over a decade. Their use has redefined the diagnosis of

myocardial infarction and lead to the definition of Acute Coronary Syndromes, or ACS. At the same time, troponins have replaced all other laboratory tests for the diagnosis of ischemic myocardial injury. This talk will review the most current recommendations regarding laboratory of ACS and explore the new developments in laboratory testing in this field. The new, candidate, biochemical markers of ACS and new testing strategies will be reviewed based on most recent publications. The presentation will also address the trend toward more sensitive troponin assays, their pros and cons in clinical practice, and how they fit in cardiac practice.

10:45-11:45 Misconceptions, Lies, and Myths-Using Urine Testing in Pain Management
Catherine Hammett-Stabler, Ph.D.
President
AACC

Abstract: All of us have experienced pain. In most acute settings, pain serves several protective, even beneficial purposes-alerting us to disease or trauma-and resolving when the injury or process heals, but pain that persists beyond the healing period is detrimental. Chronic pain impacts more than 50 million patients in the USA alone. It is a complex phenomenon disrupting lives and contributing significantly to health care costs. Pain management clinics have rapidly become the major clients of our toxicology services within the clinical laboratories because of their use of medications with a high potential for misuse. In this setting, urine drug testing is used to determine compliance as well as detect misuse of prescriptive and illicit drugs by patients who are undergoing treatment. This presentation will provide insight into some of the issues pain clinics face and deal with as they handle their patients, the drugs used, as well as the services that laboratories can provide.

11:45 AM-
1:00 PM Lunch (provided for full and half day registrants)

1:00-2:00 Respiratory Viral Panel for Better Decision-Making in Patient Management
Qi Wei
Director
Molecular Diagnostics Laboratory Development
The Children's Hospital

Abstract: The Novel H1N1 Influenza pandemic of 2009 challenged laboratories and hospitals with the need for more sensitive viral identification tests. Molecular approaches offer clear advantages, including rapid results and high sensitivity needed to appropriately treat and isolate infected patients. This presentation will share our experiences in implementing molecular diagnostic assays, especially the Luminex

Respiratory Virus Panel (RVP) for the detection of multiple respiratory viruses, including pandemic influenza, and will review our test algorithm for testing in the pediatric setting.

2:00-3:00 Will PCR Replace Classic Microbiology?

Elaine Spector, Ph. D.
Professor
Clinical Genetics and Metabolism
University of Colorado Denver

Abstract: PCR has long been the underlying method used in many sections of the clinical laboratory, including infectious disease, genetics, hematology, and cancer. However, the microbiology section of the laboratory uses older methods to identify the strain of bacteria present in a sample. These methods include plating samples on growth media to determine antibiotic resistance and metabolic characteristics. This presentation will discuss the role of PCR based testing in the microbiology section of the laboratory, advantages and disadvantages.

3:00-4:00 Chirality in Science, Medicine, Art, and Architecture: A Philatetic Journey

Joe Gal, Ph.D.
Professor
Division of Clinical Pharmacology and Toxicology
University of Colorado Denver

Abstract: An object is chiral if its mirror image is not superposable on the original, as for example, a left hand and its mirror image, the right hand. The phenomenon, chirality, has important implications in chemistry, biochemistry, physiology, and medicine. Many molecules of biological significance are chiral; enzymes and physiological and pharmacological receptors often discriminate between the mirror-image forms ("enantiomers") of such molecules. Thus, the therapeutic and/or toxic effects of drugs, agricultural chemicals, etc., are often "enantioselective." Chirality also has other interesting manifestations in biology, also expressed in many man-made objects, e.g., in architecture, in art objects, etc. In this presentation, the many aspects of chirality will be illustrated using postage stamps, which offer a visually pleasing and rich variety of examples for many of the manifestations of chirality.

Tuesday, March 2, 2010

7:30-8:15 Registration
Continental Breakfast

8:15-8:30 Welcome & Opening Remarks
Merrill Emmett. Chair

8:30-9:30 Contemporary Issues in Fetal Lung Maturity Testing
David Grenache, Ph.D.
Medical Director, Special Chemistry
ARUP Laboratories

Abstract: This presentation will describe the neonatal respiratory distress syndrome including its pathophysiology, management, and treatment, and provide a review of currently available laboratory tests for the assessment of fetal lung maturity. Contemporary issues that affect both laboratorians and physicians will also be described.

9:30-10:30 Prenatal Testing for Infectious Disease: TORCH and Beyond
James Aguanno, Ph.D.
Senior Clinical Specialist
Disease State Marketing
Siemens Healthcare Diagnostics

Abstract: Prenatal testing for infectious disease commonly involves screening the mother for infections associated with failed fetal development or congenital abnormalities that may manifest at birth or later in life. Screening often includes testing for the major components of the TORCH complex, along with organisms such as hepatitis B and HIV. Timing of the infection is critical as fetal damage often depends on the gestational age at which infection takes place. Maternal serologic tests can often identify infections that pose a risk to the fetus. Effective treatment can both reduce risk of transmission to the newborn as well as improve management of the mother's health.

10:30-10:45 Break

10:45-11:45 Code Sepsis: A Team Approach to the Diagnosis of Sepsis
Donna M. Wolk, Ph.D.
Assistant Professor
Division Chief
Clinical/Molecular Microbiology
University of Arizona

Abstract: Sepsis is the 10th leading cause of death in the United States. Nearly 600 people die each day from sepsis or its complications. This course describes the characteristics of

bloodstream infections and sepsis, the clinical needs of the Emergency Department and Critical Care physicians who treat bloodstream infections, and the application of rapid laboratory methods and strategies aimed to support the rapid diagnosis and therapeutic interventions for sepsis. The use of molecular methods to identify bloodstream pathogens as well as procalcitonin assays will be discussed.

11:45 AM-
1:00 PM Lunch (provided for full and half day registrants)

1:00-2:00 Assessment, Attainment and Maintenance of Nutritional Vitamin D Status and Methodological Challenges
Bruce W. Hollis, Ph.D.
Professor
College of Medicine
Medical University of South Carolina

Abstract: Vitamin D has been implicated in the pathogenesis of many human diseases beyond the commonly known skeletal afflictions. These diseases include, but not limited to, cancer, immune function, infection, and cardiac events. Defining a "normal" circulating level of 25(OH)D has proven challenging in that Gaussian distribution cannot be used for this purpose. The current "normative" level of circulating 25(OH)D has been derived from decades of research on various diseases using primarily the DiaSorin tests. This method was used because it has been available for almost 20 years and is the FDA predicate device for 25(OH)D testing. The current "normal" range for 25(OH)D is currently defined as 30-100 ng/ml, although an "optimum" level remains undefined and may vary by disease state.

2:00-3:00 A Zoo Veterinarian's Perspective
Felicia Knightly, DVM/ Kristin Mobley MT (ASCP)
Senior Veterinarian/ Medical Technologist
The Denver Zoo

Abstract: Topics will include a variety of interesting/unusual differences found in veterinary clinical cases-some enigmas?

3:00 Closing Remarks
4:00-5:00 AACC Members Business Meeting

Attendees

108, representing 29 hospitals and laboratories from Arizona, Colorado, and Utah

Registration Total: $4,837

Supporting Organizations

Abbott Laboratories-supported speaker
ARUP
BioRad Laboratories
BRAHMS-USA (Thermo Fisher Scientific)-provided speaker
CCTSI (Colorado Clinical & Translational Science Institute)
Fisher Healthcare
Millipore Corp.
Siemens Healthcare Diagnostics-provided speaker
Waters Corp.

Total Monetary Support: $1,636
(plus pens, pads, & lanyards)

Grand Total Income: $6,473

In addition, Dr. Catherine Hammett-Stabler, Pres., National AACC presented a talk.

Expenses

TCH Room & AV (2 days)	$ 980.00
TCH Catering (2 days)	$ 975.00
Break & Out-Of-Town Reception Food	$ 159.63
Stamps for Mailing Program	$ 83.20
Chair & Treasurer Hotel	$ 204.44
Meeting Registration/Conference Assistant Hotel	$ 204.44
Nine Speaker Honoraria ($200 ea.)	$ 1,800.00
Dr. Hollis/Airfare, Hotel, Food	$ 554.65
Dr. Grenache/Airfare, Hotel, Food	$ 383.84
AACC Member Dinner	$ 118.00

Total Expenses:	**$ 5,463.20**

Net Profit: $1,009.80