EDITORIALS

An Appeal to Medical Journal Editors: The Need for a Full Description of Laboratory Methods and Specimen Handling in Clinical Study Reports

25-Hydroxyvitamin D: A Difficult Analyte
G.D. Carter (see articles on pages 531 and 543) 486

Sizing Up Cell-Free DNA
S. Quake (see article on page 549) 489

Q&A

How Well Are We Training the Next Generation of Clinical Pathologists and Clinical Laboratory Directors? A Global Perspective
Moderator: M.G. Scott; Experts: B.R. Smith, A.H.B. Wu, I.S. Young, M. Plebani, and R.W.K. Chiu 491

CLINICAL CASE STUDY

A Patient with Prolonged Paralysis
J.E. Whittington, H.D. Pham, M. Procter, D.G. Grenache, and R. Mao 496

COMMENTARIES

G. Despotis 500
R. Goodall 500

SPECIAL REPORT

Advancing Laboratory Medicine through Innovation: A Tale of Six Inventors

REVIEW

Molecular Diagnostics of Calcineurin-Related Pathologies
R.E.A. Musson, C.M. Cobbbaert, and N.P.M. Smit 511

OPINIONS

A Message from the Laboratory Community to the National Cholesterol Education Program Adult Treatment Panel IV
H.W. Vesper, P.W.F. Wilson, and N. Rifai 523

Mass Spectrometry in Biomarker Applications: From Untargeted Discovery to Targeted Verification, and Implications for Platform Convergence and Clinical Application
R.D. Smith 528

ENDOCRINOLOGY AND METABOLISM

State-of-the-Art Vitamin D Assays: A Comparison of Automated Immunoassays with Liquid Chromatography–Tandem Mass Spectrometry
Methods
C.-J.L. Farrell, S. Martin, B. McWhinney, I. Straub, P. Williams, and M. Herrmann (see editorial on page 486) 531

MOLECULAR DIAGNOSTICS AND GENETICS

Nonhematopoietically Derived DNA Is Shorter than Hematopoietically Derived DNA in Plasma: A Transplantation Model

Use of Circulating MicroRNAs to Diagnose Acute Myocardial infarction
Y. Devaux, M. Vauros, E. Goretti, P.V. Nazarov, F. Azuaje, G. Gilson, M.F. Corsten, B. Schroen, M.-L. Lair, S. Heymans, and D.R. Wagner 559

Screening for CGG Repeat Expansion in the FMR1 Gene by Melting Curve Analysis of Combined 5'/H11541 and 3'/H11541 Direct Triplet-Primed PCRs

COLD-PCR Enrichment of Rare Cancer Mutations prior to Targeted Amplicon Resequencing
C.A. Milbury, M. Correll, J. Quackenbush, R. Rubio, and G.M. Makrigiorgos 580

continued
ARTICLES, continued

Fragile X Mental Retardation 1 (FMR1) Intron 1 Methylation in Blood Predicts Verbal Cognitive Impairment in Female Carriers of Expanded FMR1 Alleles: Evidence from a Pilot Study

CANCER DIAGNOSTICS

Candidate Serum Biomarkers for Prostate Adenocarcinoma Identified by mRNA Differences in Prostate Tissue and Verified with Protein Measurements in Tissue and Blood

Serum MicroRNA Expression Profile as a Biomarker in the Diagnosis and Prognosis of Pancreatic Cancer

PROTEOMICS AND PROTEIN MARKERS

Measurement of Fractional Synthetic Rates of Multiple Protein Analytes by Triple Quadrupole Mass Spectrometry

Troponin T Percentiles from a Random Population Sample, Emergency Room Patients and Patients with Myocardial Infarction

LABORATORY MANAGEMENT

Exploring the Initial Steps of the Testing Process: Frequency and Nature of Pre-Preanalytic Errors
P. Carraro, T. Zago, and M. Plebani

LETTERS TO THE EDITOR

A Right Royal Porphyria Fallacy
C.W. Sies, C.M. Florkowski, and L.S. Pike

Holotranscobalamin: Not Ready for Prime Time
R. Carmel

In Reply
J. Scott, E. Valente, and A. Molloy

CORRECTION

Biologic Variation of a Novel Cardiac Troponin I Assay

CLINICAL CHEMIST

WHAT IS YOUR GUESS?

Low Hemoglobin A1c—Good Diabetic Control?
L.E. Trask, D. Abbott, and H.-K. Lee

NEWS & VIEWS

Reviewing for Newbies: A Brief Guide for the Rookie Peer Reviewer
R.W.A. Peake

TECHNOLOGY CORNER

Mathematical Models to Enhance the Value of Information from Current Laboratory Platforms
M. Webster and V.S. Kumar

UNVEILING THE RIGHT SIDE

White Winter Scene after Heavy Snowfall
I.-K. Tan

SCIENCE IN THE ARTS

Science and Culture in the 18th Century: Isaac Newton
M.H. Dominiczak
ON THE COVER  The first flight by the Wright Brothers at Kitty Hawk. There are many iconic images that immediately make us think of famous inventors and their discoveries: the light bulb (Thomas Edison), the microscope (Antonie van Leeuwenhoek), and the Model-T car (Henry Ford). Nearly every individual who works in a clinical laboratory uses a pH meter (Arnold Beckman) or a diagnostic test strip (Alfred and Helen Free). The field of laboratory medicine continues to benefit from numerous scientists and physicians who have been able to successfully launch their inventions into the marketplace: inventions that changed the practice of medicine. In this issue of Clinical Chemistry, 6 of those inventors share their success stories. How did they do it? What influenced most their success? What were the major drivers for their pursuits? Did they have formal training in the innovation process? See page 502 to find out. ©Bridgeman Art Library. Reproduced with permission.