

Journal of Clinical Microbiology

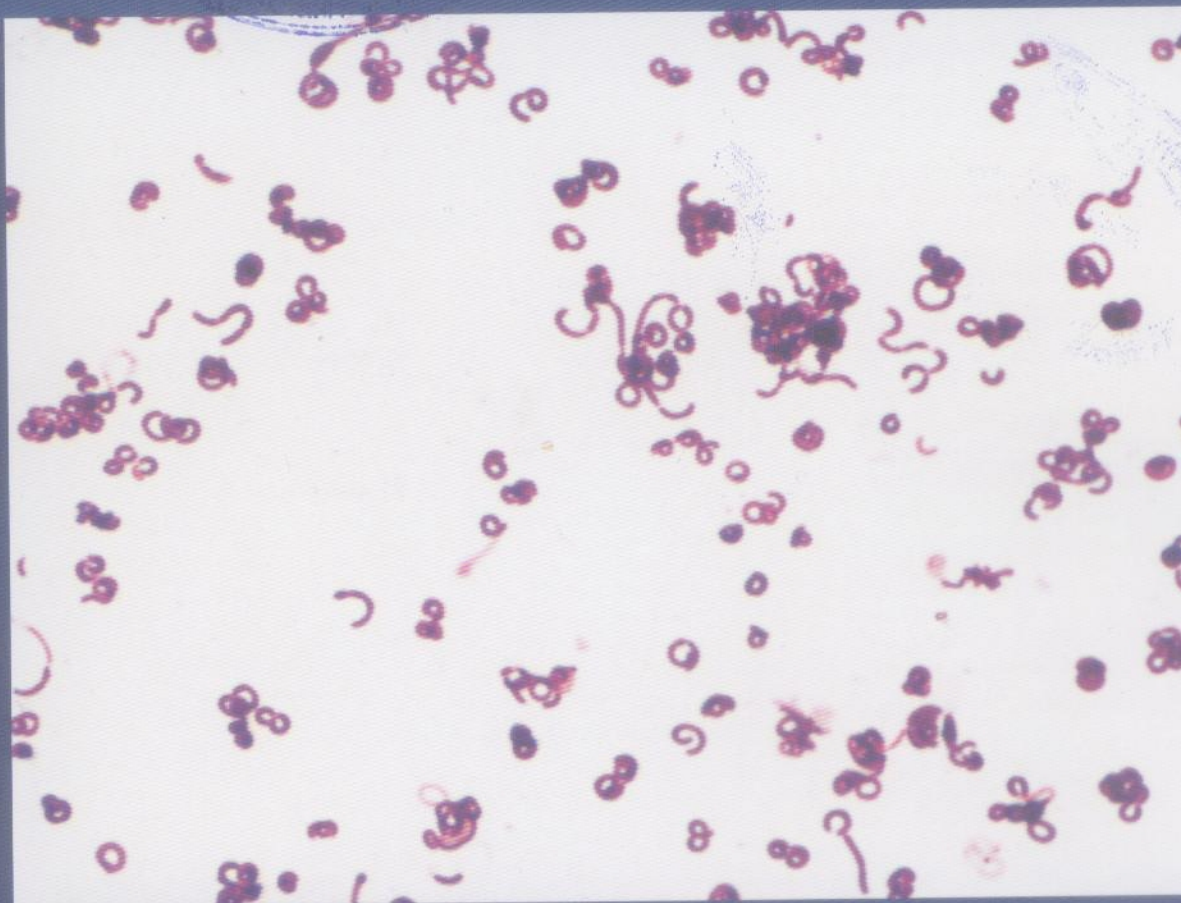


Photo quiz
(see page 739)

JCM

March 2013
Volume 51
Number 3

3

2

7



Published monthly by the American Society for Microbiology

TABLE OF CONTENTS

PHOTO QUIZ

Bacteremia in a Patient with Hepatic Encephalopathy

Benjamin H. Hinrichs, Robert C. Jerris, Eileen M. Burd 739

Answer to Photo Quiz

Benjamin H. Hinrichs, Robert C. Jerris, Eileen M. Burd 1062–1063

POINT-COUNTERPOINT

Quantitative Cultures of Bronchoscopically Obtained Specimens Should Be Performed for Optimal Management of Ventilator-Associated Pneumonia

Vickie Baselski, J. Stacey Klutts 740–744

BACTERIOLOGY

Pan-PCR, a Computational Method for Designing Bacterium-Typing Assays Based on Whole-Genome Sequence Data

Joy Y. Yang, Shelise Brooks, Jennifer A. Meyer, Robert R. Blakesley, Adrian M. Zelazny, Julia A. Segre, Evan S. Snitkin 752–758

Identification of Anaerobic Bacteria by Bruker Biotyper Matrix-Assisted Laser Desorption Ionization–Time of Flight Mass Spectrometry with On-Plate Formic Acid Preparation

Bryan H. Schmitt, Scott A. Cunningham, Aaron L. Dailey, Daniel R. Gustafson, Robin Patel 782–786

Use of Universal 16S rRNA Gene PCR as a Diagnostic Tool for Venous Access Port-Related Bloodstream Infections

M. Guembe, M. Marín, P. Martín-Rabadán, A. Echenagusia, F. Camúñez, G. Rodríguez-Rosales, G. Simó, M. Echenagusia, E. Bouza, on behalf of the GEIDI Study Group 799–804

Rapid Identification of Bacteria and Yeasts from Positive-Blood-Culture Bottles by Using a Lysis-Filtration Method and Matrix-Assisted Laser Desorption Ionization–Time of Flight Mass Spectrum Analysis with the SARAMIS Database

Amy Fothergill, Vyjayanti Kasinathan, Jay Hyman, John Walsh, Tim Drake, Yun F. (Wayne) Wang 805–809

Pseudo-Outbreak of Vancomycin-Resistant-Enterococcus (VRE) Colonization in a Neonatal Intensive Care Unit Using Spectra VRE Surveillance Medium

Rita M. Gander, Dominick Cavuoti, Adnan Alatoom, Paul Southern, Jr., Debra Grant, Kathleen Salinas, Donna Gaffney, Jennifer MacKenzie, Linda Byrd 810–813

Changes in Molecular Epidemiology of *Streptococcus pneumoniae* Causing Meningitis following Introduction of Pneumococcal Conjugate Vaccination in England and Wales

Bruno Pichon, Shamez N. Ladhani, Mary P. E. Slack, Anne Segonds-Pichon, Nick J. Andrews, Pauline A. Waight, Elizabeth Miller, Robert George 820–827

Simultaneous Detection of *Streptococcus pneumoniae*, *S. mitis*, and *S. oralis* by a Novel Multiplex PCR Assay Targeting the *gyrB* Gene

Wonyong Kim, Hee Kuk Park, Woo-Jin Hwang, Hyoung-Shik Shin 835–840

Longitudinal Analyses of Gut Mucosal Microbiotas in Ulcerative Colitis in Relation to Patient Age and Disease Severity and Duration

Alemu Fite, Sandra Macfarlane, Elizabeth Furrie, Bahram Bahrami, John H. Cummings, Douglas T. Steinke, George T. Macfarlane 849–856

Detection of *Borrelia burgdorferi* Nucleic Acids after Antibiotic Treatment Does Not Confirm Viability

Radha Iyer, Priyanka Mukherjee, Kemeng Wang, Joshua Simons, Gary P. Wormser, Ira Schwartz 857–862

Performance of *Clostridium difficile* Toxin Enzyme Immunoassay and Nucleic Acid Amplification Tests Stratified by Patient Disease Severity

Romney M. Humphries, Daniel Z. Uslan, Zachary Rubin 869–873

Evaluation of CHROMagar STEC and STEC O104 Chromogenic Agar Media for Detection of Shiga Toxin-Producing <i>Escherichia coli</i> in Stool Specimens	Malika Gouali, Corinne Ruckly, Isabelle Carle, Monique Lejay-Collin, François-Xavier Weill	894–900
Detection of the A2058G and A2059G 23S rRNA Gene Point Mutations Associated with Azithromycin Resistance in <i>Treponema pallidum</i> by Use of a TaqMan Real-Time Multiplex PCR Assay	Cheng-Yen Chen, Kai-Hua Chi, Allan Pillay, Eli Nachamkin, John R. Su, Ronald C. Ballard	908–913
Genetic Variation among Panton-Valentine Leukocidin-Encoding Bacteriophages in <i>Staphylococcus aureus</i> Clonal Complex 30 Strains	Liang Chen, Kalyan D. Chavda, Mihir Solanki, José R. Mediavilla, Barun Mathema, Patrick M. Schlievert, Barry N. Kreiswirth	914–919
Hypermutable <i>Pseudomonas aeruginosa</i> in Cystic Fibrosis Patients from Two Brazilian Cities	Larissa Lutz, Robson Souza Leão, Alex Guerra Ferreira, Dariane Castro Pereira, Caroline Raupp, Tyrone Pitt, Elizabeth Andrade Marques, Afonso Luis Barth	927–930
Differences and Similarities between Culture-Confirmed Human Granulocytic Anaplasmosis and Early Lyme Disease	Gary P. Wormser, Maria E. Aguero-Rosenfeld, Mary E. Cox, John Nowakowski, Robert B. Nadelman, Diane Holmgren, Donna McKenna, Susan Bittker, Lois Zentmaier, Denise Cooper, Dionysios Liveris, Ira Schwartz, Harold W. Horowitz	954–958
Genetic Types, Gene Repertoire, and Evolution of Isolates of the <i>Salmonella enterica</i> Serovar 4,5,12:i:— Spanish Clone Assigned to Different Phage Types	Patricia García, Burkhard Malorny, Elisabeth Hauser, M. Carmen Mendoza, M. Rosario Rodicio	973–978
Four-Year Experience with Simultaneous Culture and Shiga Toxin Testing for Detection of Shiga Toxin-Producing <i>Escherichia coli</i> in Stool Samples	Jennifer S. Woo, Elizabeth L. Palavecino	985–987
<i>Helicobacter pylori</i> Virulence Genes Detected by String PCR in Children from an Urban Community in Northeastern Brazil	Maria H. R. B. Goncalves, Cícero I. S. M. Silva, Manuel B. Braga-Neto, Andrea B. C. Fialho, Andre M. N. Fialho, Dulciene M. M. Queiroz, Lucia L. B. C. Braga	988–989
Real-Time PCR Quantification of <i>Methanobrevibacter oralis</i> in Periodontitis	Amélie Bringuier, Saber Khelaifia, Hervé Richet, Gérard Aboudharam, Michel Drancourt	993–994
Mechanisms of Linezolid Resistance among <i>Staphylococci</i> in a Tertiary Hospital	Inmaculada Quiles-Melero, Rosa Gómez-Gil, María Pilar Romero-Gómez, Ana María Sánchez-Díaz, Manuela de Pablos, Julio García-Rodriguez, Avelino Gutiérrez, Jesús Mingorance	998–1001
Evaluation of the Chromogenic Agar chromID <i>C. difficile</i>	Catherine Eckert, Béatrice Burghoffer, Valérie Lalande, Frederic Barbut	1002–1004
Molecular Characterization of High-Level Mupirocin Resistance in <i>Staphylococcus pseudintermedius</i>	Krešimir Matanović, Eduardo Pérez-Roth, Selma Pintarić, Branka Šeol Martinec	1005–1007
Multiplex Real-Time PCR Assay for Detection of Methicillin-Resistant <i>Staphylococcus aureus</i> (MRSA) Strains Suitable in Regions of High MRSA Endemicity	Jeong-Uk Kim, Choong-Hwan Cha, Hae-Kyong An, Ho-Jun Lee, Mi-Na Kim	1008–1013

Genetic Analysis of Glycopeptide-Resistant *Staphylococcus epidermidis* Strains from Bone and Joint Infections

Julie Cremniter, Valérie Sivadon-Tardy, 1014–1019
Charlotte Caulliez, Thomas Bauer,
Raphaël Porcher, Alain Lortat-Jacob,
Philippe Piriou, Thierry Judet, Philippe
Aegerter, Jean-Louis Herrmann, Jean-
Louis Gaillard, Martin Rottman

Education of Phlebotomy Teams Improves Blood Volume in Blood Culture Bottles

Jakko van Ingen, Nataliya Hilt, Ron 1020–1021
Bosboom

Evaluation of Brilliance MRSA 2 Agar for Detection of Methicillin-Resistant *Staphylococcus aureus* in Clinical Samples

J. Veenemans, C. Verhulst, R. Punselie, 1026–1027
P. H. J. van Keulen, J. A. J. W.
Kluytmans

Real-Time Multiplex PCR Assay and Melting Curve Analysis for Identifying Diarrheagenic *Escherichia coli*

Tamara B. Souza, Diego M. Lozer, 1031–1033
Sônia M. S. Kitagawa, Liliana C. Spano,
Neusa P. Silva, Isabel C. A. Scaletsky

Molecular Characterization of High-Level-Cholera-Toxin-Producing El Tor Variant *Vibrio cholerae* Strains in the Zanzibar Archipelago of Tanzania

A. Naha, G. Chowdhury, J. Ghosh- 1040–1045
Banerjee, M. Senoh, T. Takahashi, B.
Ley, K. Thriemer, J. Deen, L. V.
Seidlein, S. M. Ali, A. Khatib, T.
Ramamurthy, R. K. Nandy, G. B. Nair,
Y. Takeda, A. K. Mukhopadhyay

CHLAMYDIOLOGY AND RICKETTSIOLOGY

Influence of Temperature, Medium, and Storage Duration on *Chlamydia trachomatis* DNA Detection by PCR

Laura van Dommelen, Petra F. G. 990–992
Wolffs, Frank H. van Tiel, Nicole
Dukers, Selma B. Herngreen,
Cathrien A. Bruggeman, Christian J. P. A.
Hoebe

MYCOBACTERIOLOGY AND AEROBIC ACTINOMYCETES

***Mycobacterium smegmatis* in Skin Biopsy Specimens from Patients with Suppurative Granulomatous Inflammation**

Zhe Xu, Di Lu, Xia Zhang, Haijing Li, 1028–1030
Shufang Meng, Yue-Song Pan, Alan S.
Boyd, Lin Ma, Yi-Wei Tang

MYCOLOGY

Development of a Clinically Comprehensive Database and a Simple Procedure for Identification of Molds from Solid Media by Matrix-Assisted Laser Desorption Ionization–Time of Flight Mass Spectrometry

Anna F. Lau, Steven K. Drake, Leslie B. 828–834
Calhoun, Christina M. Henderson,
Adrian M. Zelazny

Nationwide Study of Candidemia, Antifungal Use, and Antifungal Drug Resistance in Iceland, 2000 to 2011

Lena Ros Asmundsdottir, Helga 841–848
Erlendsdottir, Magnus Gottfredsson

Utility of PCR in Diagnosis of Invasive Fungal Infections: Real-Life Data from a Multicenter Study

Cornelia Lass-Flörl, Wolfgang 863–868
Mutschlechner, Maria Aigner,
Katharina Grif, Claudia Marth, Michael
Girschikofsky, Wilhelm Grander,
Richard Greil, Gudrun Russ, Peter
Cerk, Mirjam Eller, Gabriele
Kropshofer, Stephan Eschertzhuber,
Hermann Kathrein, Stefan Schmid,
Ronny Beer, Ingo Lorenz, Igor Theurl,
David Nachbaur

Identification and Typing of Isolates of *Cyphellophora* and Relatives by Use of Amplified Fragment Length Polymorphism and Rolling Circle Amplification

Peiying Feng, Corné H. W. Klaassen, 931–937
Jacques F. Meis, M. J. Najafzadeh,
A. H. G. Gerrits Van Den Ende, Liyan
Xi, G. S. de Hoog

PCR Followed by Electrospray Ionization Mass Spectrometry for Broad-Range Identification of Fungal Pathogens

Epidemiology, Antifungal Susceptibility, and Pathogenicity of *Candida africana* Isolates from the United Kingdom

A Real-Time PCR Assay for Rapid Detection and Quantification of *Exserohilum rostratum*, a Causative Pathogen of Fungal Meningitis Associated with Injection of Contaminated Methylprednisolone

PARASITOLOGY

Efficient Depletion of Host DNA Contamination in Malaria Clinical Sequencing

Genetic Characterization of *Toxoplasma gondii* Revealed Highly Diverse Genotypes for Isolates from Newborns with Congenital Toxoplasmosis in Southeastern Brazil

Performance of a Rapid Self-Test for Detection of *Trichomonas vaginalis* in South Africa and Brazil

VIROLOGY

High Frequency and Diversity of Species C Enteroviruses in Cameroon and Neighboring Countries

Single Real-Time Reverse Transcription-PCR Assay for Detection and Quantification of Genetically Diverse HIV-1, SIVcpz, and SIVgor Strains

Evaluation of a Benchtop HIV Ultradeep Pyrosequencing Drug Resistance Assay in the Clinical Laboratory

Single-Tube Multiplexed Molecular Detection of Endemic Porcine Viruses in Combination with Background Screening for Transboundary Diseases

Christian Massire, Daelynn R. Buelow, Sean X. Zhang, Robert Lovari, Heather E. Matthews, Donna M. Toleno, Raymond R. Ranken, Thomas A. Hall, David Metzgar, Rangarajan Sampath, Lawrence B. Blyn, David J. Ecker, Zhengming Gu, Thomas J. Walsh, Randall T. Hayden 959–966

Andrew M. Borman, Adrien Szekely, Chistopher J. Linton, Michael D. Palmer, Phillipa Brown, Elizabeth M. Johnson 967–972

Yanan Zhao, Ruta Petraitiene, Thomas J. Walsh, David S. Perlin 1034–1036

Samuel O. Oyola, Yong Gu, Magnus Manske, Thomas D. Otto, John O'Brien, Daniel Alcock, Bronwyn MacInnis, Matthew Berriman, Chris I. Newbold, Dominic P. Kwiatkowski, Harold P. Swerdlow, Michael A. Quail 745–751

Ana Carolina Aguiar Vasconcelos Carneiro, Gláucia Manzan Andrade, Júlia Gatti Ladeia Costa, Breno Veloso Pinheiro, Daniel Vitor Vasconcelos-Santos, Adriana Melo Ferreira, Chunlei Su, José Nélío Januário, Ricardo Wagner Almeida Vitor 901–907

Heidi E. Jones, Sheri A. Lippman, Helio H. Caiaffa-Filho, Taryn Young, Janneke H. H. M. van de Wijert 1037–1039

Serge Alain Sadeuh-Mba, Maël Bessaud, Denis Massenet, Marie-Line Joffret, Marie-Claire Endegue, Richard Njoum, Jean-Marc Reynes, Dominique Rousset, Francis Delpeyroux 759–770

Lucie Etienne, Sabrina Eymard-Duvernay, Avelin Aghokeng, Christelle Butel, Marjorie Monleau, Martine Peeters 787–798

Boaz Avidor, Shirley Girshengorn, Natalia Matus, Hadass Talio, Svetlana Achsanov, Irene Zeldis, Ilana S. Fratty, Eugene Katchman, Tal Brosh-Nissimov, David Hassin, Danny Alon, Zvi Bentwich, Israel Yust, Sharon Amit, Rely Forer, Ina Vulih Shultsman, Dan Turner 880–886

Kerstin Wernike, Bernd Hoffmann, Martin Beer 938–944

Pathogen Chip for Respiratory Tract Infections

Eric A. F. Simões, Champa Patel, Wing-Kin Sung, Charlie W. H. Lee, Kuan Hon Loh, Marilla Lucero, Hanna Nohynek, Geraldine Nai, Pei Ling Thien, Chee Wee Koh, Yang Sun Chan, Jianmin Ma, Sebastian Maurer-Stroh, Phyllis Carosone-Link, Martin L. Hibberd, Christopher W. Wong, ARIVAC Consortium 945–953

High Rates of Detection of Respiratory Viruses in the Nasal Washes and Mucosae of Patients with Chronic Rhinosinusitis

Gye Song Cho, Byung-Jae Moon, Bong-Jae Lee, Chang-Hoon Gong, Nam Hee Kim, You-Sun Kim, Hun Sik Kim, Yong Ju Jang 979–984

Association of Neurotropic Viruses in HIV-Infected Individuals Who Died of Secondary Complications of Tuberculosis, Cryptococcosis, or Toxoplasmosis in South India

Rajesh Kannangai, Jaiprasath Sachithanandham, Anita Mahadevan, Asha Mary Abraham, Gopalan Sridharan, Anita Desai, Vasanthapuram Ravi, Susarla Krishna Shankar 1022–1025

CLINICAL VETERINARY MICROBIOLOGY

Phylogenetic and Pathotypic Characterization of Newcastle Disease Viruses Circulating in West Africa and Efficacy of a Current Vaccine

Arthur Samuel, Baibaswata Nayak, Anandan Paldurai, Sa Xiao, Gilbert L. Aplogan, Kodzo A. Awoume, Richard J. Webby, Mariette F. Ducatez, Peter L. Collins, Siba K. Samal 771–781

Yersinia enterocolitica in Diagnostic Fecal Samples from European Dogs and Cats: Identification by Fourier Transform Infrared Spectroscopy and Matrix-Assisted Laser Desorption Ionization–Time of Flight Mass Spectrometry

Ivonne Stamm, Mandy Hailer, Barbara Depner, Peter A. Kopp, Jörg Rau 887–893

Multilocus Sequence Typing of the Porcine and Human Gastric Pathogen *Helicobacter suis*

Jungang Liang, Richard Ducatelle, Frank Pasmans, Annemieke Smet, Freddy Haesebrouck, Bram Flahou 920–926

EPIDEMIOLOGY

Comparing Pulsed-Field Gel Electrophoresis with Multilocus Sequence Typing, *spa* Typing, Staphylococcal Cassette Chromosome *mec* (SCC*mec*) Typing, and PCR for Pantone-Valentine Leukocidin, *arcA*, and *opp3* in Methicillin-Resistant *Staphylococcus aureus* Isolates at a U.S. Medical Center

Michael Z. David, Alexis Taylor, Ruth Lynfield, Dave J. Boxrud, Ginette Short, Diana Zychowski, Susan Boyle-Vavra, Robert S. Daum 814–819

Molecular Characterization of Methicillin-Susceptible *Staphylococcus aureus* Clinical Isolates in the United States, 2004 to 2010

Benjamin A. Miko, Cory A. Hafer, Caroline J. Lee, Sean B. Sullivan, Meredith A. M. Hackel, Brian M. Johnson, Susan Whittier, Phyllis Della-Latta, Anne-Catrin Uhlemann, Franklin D. Lowy 874–879

Serotype Analysis of *Streptococcus pneumoniae* in Lung and Nasopharyngeal Aspirates from Children in the Gambia by MassTag PCR

Rafal Tokarz, Thomas Briese, Gerard Morris, Readon Ideh, Osaretin Chimah, Bernard Ebruke, Aaloki Desai, Saddef Haq, Stephen Sameroff, Stephen R. C. Howie, W. Ian Lipkin 995–997

CASE REPORTS

Helicobacter canis Bacteremia in a Patient with Fever of Unknown Origin

Maheen Z. Abidi, Mark P. Wilhelm, Jadee L. Neff, John G. Hughes, Scott A. Cunningham, Robin Patel 1046–1048

***Klebsiella pneumoniae* K1 Liver Abscess and Septic Endophthalmitis in a U.S. Resident**

Hepatitis B and E Co-Primary Infections in an HIV-1-Infected Patient

LETTERS TO THE EDITOR

Clinical Laboratory Experience with Cervista HPV HR as a Function of Cytological Classification: Comparison with Retrospective *digene* HC2 High-Risk HPV DNA Test Data

Invasive *Neisseria meningitidis* Strain Expressing Capsular Polysaccharides W and Y in Brazil

AUTHOR'S CORRECTION

Clinical and Microbiological Differences between *Mycobacterium abscessus* and *Mycobacterium massiliense* Lung Diseases

Darpun D. Sachdev, Michael T. Yin, Jason D. Horowitz, Sri Krishna Mukkamala, Song Eun Lee, Adam J. Ratner 1049–1051

Yanis Bouamra, Souad Benali, Hervé Tissot-Dupont, Catherine Tamalet, Philippe Colson 1052–1056

Brian K. Du Chateau, Elizabeth R. Schroeder, Erik Munson 1057–1058

David E. Barroso, Terezinha M. P. P. Castiñeiras, Maria C. Rebelo, Mary M. Tulenko, Jane W. Marsh, Mary G. Krauland, Lee H. Harrison 1059–1060

Toshiyuki Harada, Yasushi Akiyama, Atsuyuki Kurashima, Hideaki Nagai, Kazunari Tsuyuguchi, Takashi Fujii, Shuichi Yano, Eriko Shigeto, Toshihiko Kuraoka, Akira Kajiki, Yoshihiro Kobashi, Fumio Kokubu, Atsuo Sato, Shiomi Yoshida, Tomotada Iwamoto, Hajime Saito 1061