
On the cover is an illustration of a 17th-century Ottoman manuscript depicting preparation of remedies for smallpox under the instruction of Avicenna, the noted Persian physician and philosopher. In this scene, Avicenna's apprentice uses a balance scale to measure carefully the ingredients for the treatment of the patient's dermatological manifestations.

The prominent Persian polymath, Abu Ali Husain ibn Abdullah ibn Sina (980–1037 AD) known as Avicenna, was perhaps the most influential scholar of the Islamic Golden Age, contributing to the development of medicine, science, astronomy, logic, and mathematics in medieval and later eras. Smallpox, perhaps the major fatal infectious disease of the period, was extensively discussed in Avicenna's medical masterpiece, Al-Qanun fi al-Tibb (The Canon of Medicine). In this treatise, he warned patients about the probable ophthalmic and respiratory complications of the disease, advising precautionary measures including administration of different concoctions and ointments as ophthalmic medications and antiseptic mouthwash. The persistent scars following the disease were also of cosmetic consideration and Avicenna prescribed numerous ointments to resolve the problem.

Guest Contributors: Kamiyar Ghabili & Samad EJ Golzari, Tabriz, Iran. (Mary & Michael Grizzard, Cover Art Editors)

167 Influenza Vaccine Effectiveness in Preventing Outpatient, Inpatient, and Severe Cases of Laboratory-Confirmed Influenza
Jesus Castillo, Pere Godoy, Ángela Domínguez, Iván Martínez-Baz, Jenaro Astray, Vicente Martín, Miguel Delgado-Rodríguez, Marenva Baricot, Nuria Soldevilla, José María Mayoral, José María Quintana, Juan Carlos Gallán, Ady Castro, Fernando González-Candelas, Olaz Garin, Marc Saez, Sonia Tamames, and Tomás Pumarola; for the CIBERESP Cases and Controls in Influenza Working Group Spain

The 2010–2011 influenza vaccine had a moderate to high effect in preventing outpatient cases and hospitalizations due to laboratory-confirmed influenza in Spain, and a high protective effect against severe cases. Influenza vaccination was associated with lesser severity in hospitalized cases.

176 Discontinuation of Contact Precautions for Methicillin-Resistant Staphylococcus aureus: A Randomized Controlled Trial Comparing Passive and Active Screening With Culture and Polymerase Chain Reaction
Erica S. Shenoy, JiYeon Kim, Eric S. Rosenberg, Jessica A. Cotter, Hang Lee, Rochelle P. Walensky, and David C. Hooper

In this randomized controlled trial, active screening was superior to passive screening for discontinuation of contact precautions for methicillin-resistant Staphylococcus aureus, and a single negative nasal swab processed by polymerase chain reaction had a high negative predictive value compared to 3 nasal cultures.

185 Editorial Commentary: Search, Destroy, and Confirm: How to Maximize the Benefit and Reduce the Unintended Consequences of Contact Precautions for Control of Methicillin-Resistant Staphylococcus aureus
David A. Pegues

188 Understanding the Determinants of Antimicrobial Prescribing Within Hospitals: The Role of “Prescribing Etiquette”
E. Charani, E. Castro-Sanchez, N. Sevdalis, Y. Kyriatsis, L. Drumright, N. Shah, and A. Holmes

Prescribing etiquette is an important determinant of antimicrobial prescribing behaviors. Prescribing etiquette recognizes clinical decision-making autonomy and the role of hierarchy in influencing practice. Existing clinical groups and clinical leadership should be utilized to influence antimicrobial prescribing behaviors.

197 Lack of Association of Guillain-Barré Syndrome With Vaccinations
Roger Baxter, Nandini Bakshi, Bruce Fireman, Edwin Lewis, Paula Ray, Claudia Vellozzi, and Nicola P. Klein

This study examined the risk of Guillain-Barré syndrome (GBS) and vaccines over >30 million person-years, using a method that controls well for confounding. There was no evidence of increased risk of GBS following vaccinations of any kind, including influenza vaccination.
205 Editorial Commentary: Guillain-Barré Syndrome and Vaccinations
Daniel A. Salmon and Neal A. Halsey

208 Effect of Adequate Single-Drug vs Combination Antimicrobial Therapy on Mortality in Pseudomonas aeruginosa Bloodstream Infections: A Post Hoc Analysis of a Prospective Cohort
Carmen Peña, Cristina Suarez, Alain Ocampo-Sosa, Javier Murillas, Benito Almirante, Virginia Pomar, Manuela Aguilar, Ana Granados, Esther Calbo, Jesús Rodríguez-Beiro, Fernando Rodríguez, Fe Tubau, Antonio Oliver, and Luis Martínez-Martínez; for the Spanish Network for Research in Infectious Diseases (REIPI)

Empirical combination therapy is recommended for patients with known or suspected Pseudomonas aeruginosa (PA). A post hoc analysis of patients with PA bloodstream infections suggests that treatment with combination antimicrobial therapy did not reduce the mortality risk compared with single-drug therapy.

217 Editorial Commentary: Combination Therapy for Pseudomonas aeruginosa Bacteremia: Where Do We Stand?
Mical Paul and Leonard Leibovici

221 Evolution of Treatment-Emergent Resistant Variants in Telaprevir Phase 3 Clinical Trials

In phase 3 trials of telaprevir, 77% of patients who did not achieve sustained virologic response had resistant variants. Most populations lost resistance thereafter. For hepatitis C virus genotypes 1a and 1b, median times to wild type were approximately 11 months and 1 month, respectively.

230 A Risk for Hepatocellular Carcinoma Persists Long-term After Sustained Virologic Response in Patients With Hepatitis C–Associated Liver Cirrhosis
Soo Aleman, Nogol Rahbin, Ola Weiland, Loa Davidsdottir, Magnus Hedestenstierna, Nina Rose, Hans Verbaan, Per Stål, Tony Carlsson, Hans Norrgren, Anders Ekborn, Fredrik Granath, and Rolf Hultcrantz

The risk for hepatocellular carcinoma (HCC) remained at a low level long-term (up to 8 years) after achievement of sustained virologic response (SVR) in patients with hepatitis C virus–associated liver cirrhosis. Continued surveillance for HCC after SVR is warranted.

237 Editorial Commentary: Sustained Virologic Response for Patients With Hepatitis C–Related Cirrhosis: A Major Milestone, but Not Quite a Cure
Oscar Cruz Pereira and Jordan J. Feld

240 Noninvasive Serum Fibrosis Markers for Screening and Staging Chronic Hepatitis C Virus Patients in a Large US Cohort
Scott D. Holmberg, Mei Lu, Laralee B. Rupp, Lois E. Lamerato, Anne C. Moorman, Vinutha Vijayadeva, Joseph A. Boccarino, Emily M. Henkle, and Stuart C. Gordon; for the Chronic Hepatitis Cohort Study (CHeCS) Investigators

Authors review 2 (FIB-4 and APRI) systems relying on more easily obtainable serum and cell biomarkers for liver biopsies to stage liver disease. This would be an important step in opening treatment and care of uncomplicated hepatitis C virus–infected patients.

247 Listeria monocytogenes Sequence Type 6 and Increased Rate of Unfavorable Outcome in Meningitis: Epidemiologic Cohort Study
Merel M. Koopmans, Matthijs C. Brouwer, Menijn W. Bijlsma, Sandra Bovenkerk, Wendy Kuijpers, Arie van der Ende, and Diederik van de Beek

The rate of unfavorable outcome among adults with listerial meningitis has increased over a 14-year period, from 27% to 81%. The emerging Listeria monocytogenes genotype sequence type 6 was identified as the main factor leading to poorer prognosis.

254 A Regional Informatics Platform for Coordinated Antibiotic-Resistant Infection Tracking, Alerting, and Prevention
Abel N. Kho, Bradley N. Doebbeling, John P. Cashy, Marc B. Rosenman, Paul R. Dexter, David C. Shepherd, Larry Lemmon, Evgenia Teal, Shahid Khokar, and J. Marc Overhage

One in 5 admissions to a healthcare institution for methicillin-resistant Staphylococcus aureus or vancomycin-resistant enterococci is based on data from a different healthcare system. A regional patient registry and electronic admission notifications can facilitate coordinated infection-prevention efforts.

BRIEF REPORT

263 Campylobacter jejuni Infections Associated With Unpasteurized Milk—Multiple States, 2012

INVITED ARTICLES

267 CLINICAL PRACTICE
Infectious Complications Following Transrectal Ultrasound–Guided Prostate Biopsy: New Challenges in the Era of Multidrug-Resistant Escherichia coli
Deborah A. Williamson, Lucinda K. Barrett, Benjamin A. Rogers, Joshua T. Freeman, Paul Hadaway, and David L. Paterson

We provide an overview of the published literature relating to the epidemiology, prevention, and treatment of infections following transrectal ultrasound–guided prostate biopsy in the wider context of increasing antimicrobial resistance.
HIV/AIDS

275 Effects of Smoking on Non-AIDS-Related Morbidity in HIV-Infected Patients
Daniel K. Shirley, Robert J. Kaner, and Marshall J. Glesby

Smoking is common in the human immunodeficiency virus–infected population and may interact adversely with chronic systemic inflammation to promote end-organ disease. This article reviews the non-AIDS-related effects of smoking.

283 Vaccines

Heterologous (“Nonspecific”) and Sex-Differential Effects of Vaccines: Epidemiology, Clinical Trials, and Emerging Immunologic Mechanisms
K. L. Flanagan, R. van Crevel, N. Curtis, F. Shann, and O. Levy; for the Optimmunize Network

Vaccines can have profound effects on susceptibility to infections that are unrelated to stimulation of vaccine-specific immunity. An international group of experts attended the second Optimmunize meeting in 2012 to discuss advances in understanding the mechanisms underlying these heterologous effects.

HIV/AIDS

290 Changes in HIV-1 Subtypes B and C Genital Tract RNA in Women and Men After Initiation of Antiretroviral Therapy
Susan A. Fiscus, Susan Cu-Uvin, Abel Tilahun Eshete, Michael D. Hughes, Yajing Bao, Mina Hosseinipour, Beatrix Grinsztejn, Sharlaa Badal-Faesen, Joan Dragavon, Robert W. Coombs, Ken Braun, Laura Moran, James Hakim, Timothy Flanigan, N. Kumarasamy, and Thomas B. Campbell; for the A5185s Team

Women with human immunodeficiency virus (HIV)-1 subtype C had significantly higher genital tract viral loads compared to women with HIV-1 subtype B and men with HIV-1 subtype C or B. Women in general were significantly less likely to have genital tract viral load below the lower limit of quantification compared to men.

298 HIV and Syphilis Prevalence Among Men Who Have Sex With Men: A Cross-Sectional Survey of 61 Cities in China
Zunyou Wu, Jie Xu, Enwu Liu, Yufei Wang, Zhaohua Wang, Yuelian Ke, Qing Zhen, Xinxiang Yuan, Wenyi Zhang, Yong Lu, Yaqing Yu, Hongbin Song, and Liuyu Huang

The prevalence of human immunodeficiency virus and syphilis among men who have sex with men in China is high, yet the 2 epidemics are largely geographically separate. Characteristics of the overall population surveyed as well as segments within this population are described.

Editorial Commentary: China, HIV, and Syphilis Among Men Who Have Sex With Men: An Urgent Call to Action
Kathryn E. Muessig and Myron S. Cohen

310 CD4 Decline Is Associated With Increased Risk of Cardiovascular Disease, Cancer, and Death in Virally Suppressed Patients With HIV
Marie Helleberg, Gitte Kronborg, Carsten S. Larsen, Gitte Pedersen, Court Pedersen, Niels Obel, and Jan Gerstoft

We studied the clinical implications of CD4 decline among virally suppressed human immunodeficiency virus patients and found that the risk of cardiovascular disease, cancer, and death was substantially increased within 6 months after a major CD4 decline and moderately increased thereafter.

CORRESPONDENCE

322 Improvement and Advancement of Early Diagnosis of Human Brucellosis in Window Period
Zeliang Chen, Yufei Wang, Zhoujia Wang, Yuelian Ke, Qing Zhen, Xinxiang Yuan, Wenyi Zhang, Yong Lu, Yaqing Yu, Hongbin Song, and Liuyu Huang

323 Are Prolonged/Continuous Infusions of β-lactams for All?
Rajeev Soman, Neha Gupta, Anjali Shetty, and Camilla Rodrigues

323 Reply to Soman et al

324 Is Extended or Continuous Infusion of Carbapenems the Obvious Solution to Improve Clinical Outcomes and Reduce Mortality?
Frédéric Frippiat, Christelle Vercheval, Bernard Lambermont, and Pierre Damas

325 Reply to Soman et al and Frippiat et al
Matthew E. Falagas, Giannoula S. Tansarli, Kazuro Ikawa, and Konstantinos Z. Vardakas

327 Stop Routine CD4 Monitoring in HIV-Infected Patients With Fully Suppressed Virus and CD4 ≥350 Cells/mL
G. G. Whitlock, N. Ahmed, P. Benn, S. Edwards, and L. Waters

328 Cement Spacers in Periprosthetic Joint Infection
Robert L. Barrack, Keith R. Berend, Quanjun Cui, Thomas K. Fehring, Craig J. Della Valle, Thorsten Gehrke, Adolph V. Lombardi, Michael A. Mont, Javad Parvizi, and Bryan D. Springer

329 A Timely Reminder About the Concomitant Use of Fusidic Acid With Statins
Raquel Cowan, Paul D. R. Johnson, Karen Urbancic, and M. Lindsay Grayson
High-Risk Regions of Human Brucellosis in China: Implications for Prevention and Early Diagnosis of Travel-Related Infections
Zeliang Chen, Wenyi Zhang, Yuehua Ke, Yufei Wang, Baolei Tian, Dali Wang, Buyun Cui, Wen Zou, Shenlong Li, Liuyu Huang, and Hongbin Song

ELECTRONIC ARTICLE

e11 Dynamics and Determinants of Staphylococcus aureus Carriage in Livestock Veterinarians: A Prospective Cohort Study
Erwin Verkade, Birgit van Benthem, Marjolein Kuytmans-van den Bergh, Brigitte van Cleef, Miranda van Rijen, Thijs Bosch, and Jan Kuytmans

Mean prevalence of methicillin-resistant Staphylococcus aureus (MRSA) CC398 and S. aureus carriage among 137 livestock veterinarians was 44% and 72%, respectively. Twenty-three percent always carried MRSA CC398, and 13% of veterinarians had identical multilocus variable-number tandem repeat analysis types during the 2-year study period, indicating actual persistent colonization.

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