Welcome to the weekly Infection Current Awareness Update (ICAU), produced by PHE Knowledge and Library Services. The purpose of this update is to provide you with the latest, best evidence about infection, to help you make informed decisions.

Please note: PHE KLS has set up a separate COVID-19 Daily Alert of latest research. If you would like to receive this, please email libraries@phe.gov.uk. In addition to this, a page of resources about the coronavirus is available here.

If you have any queries, please contact us at libraries@phe.gov.uk, and if you would like to request a literature search, please use the Knowledge and Library Services Enquiries Portal (PHE staff only).

Please note that not all the articles and resources referred to in this alert are freely available. Some articles may require an Athens username and password, and for PHE and NHS staff, these can be obtained here. If you do not work for PHE or the NHS, you may want to approach your local health library service to discuss how you may have access to library services.

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Infection-related guidance

British Medical Association

Kept apart – the price of beating COVID
14 May 2021
A harsh consequence of COVID has been the restriction on visiting, separating patients from loved ones. Two doctors tell Tim Tonkin about their own hospital stays and ask whether the balance between safety and compassion is right

Royal College of General Practitioners

GP consultations post-COVID should be a combination of remote and face to face, depending on patient need, says College
11 May 2021
Face to face consulting is an essential element of general practice and remote consulting should be an option but not the ‘automatic default’ for GP care and services once things get back to normal after the pandemic, the Royal College of GPs says in a new report out today

Infection-related journals

American Journal of Infection Control

Readmission after Hospitalization with Staphylococcus aureus Bacteremia in Children
11 May 2021
Staphylococcus aureus bacteremia is associated with substantial morbidity in children, including treatment failure and complications. Readmission rate is being increasingly used as a quality measure, representative of morbidity

Challenges and opportunities in recruiting, hiring and training Infection Preventionists across facility settings
11 May 2021
Recruitment of skilled professionals for the infection preventionist (IP) role is an ongoing priority for organizations. The objective of this study was to understand differences in recruitment, hiring and training by facility setting and discuss targeted strategies for diverse organizations.

Performance- and cost-benefit analysis of an influenza point-of-care test compared to laboratory-based multiplex RT-PCR in the emergency department
10 May 2021
Influenza poses a heavy burden on emergency departments (ED) and hospital wards. Fast and reliable bedside tests are invaluable in obtaining indications for (cohort) droplet isolation precautions and improving patient flow. We performed a cost-benefit analysis comparing influenza point-of-care testing (POCT) to laboratory-based multiplex ligation-dependent probe amplification (MLPA).

Clinical Infectious Diseases - Advance Access
Significant impact of COVID-19 on HIV care in hospitals affecting the first pillar of the HIV care continuum
16 May 2021
Abstract During COVID-19 lockdown, the in-hospital number of HIV indicator conditions decreased disproportionally compared to other non-COVID-19 diseases which was accompanied by reduced HIV testing rates, number and proportion of positive HIV tests, and new HIV referrals with more late presentation after lockdown cessation, indicating a significantly impacted HIV care continuum.

BNT162b2 mRNA vaccination did not prevent an outbreak of SARS COV-2 variant 501Y.V2 in an elderly nursing home but reduced transmission and disease severity
16 May 2021
Abstract We report an outbreak of SARS-CoV-2 501Y.V2 in a nursing home. All non-vaccinated residents (5/5) versus half of those vaccinated with BNT162b2 (13/26) were infected. Two of 13 vaccinated versus 4 of 5 non-vaccinated residents presented severe disease. BNT162b2 did not prevent the outbreak, but reduced transmission and disease severity.

Reduced BNT162b2 mRNA vaccine response in SARS-CoV-2-naive nursing home residents
16 May 2021
Abstract After BNT162b2 mRNA vaccination, antibody levels to spike, receptor binding domain (RBD) and virus neutralization were examined in 149 nursing home (NH) residents and 110 health care worker controls. SARS-CoV-2-naive NH residents median post-2nd vaccine dose antibody neutralization titers are ¼ that of SARS-CoV-2-naive healthcare workers.

First case of lethal encephalitis in Western Europe due to European bat lyssavirus type 1
15 May 2021
Abstract Background Inaccurate diagnosis of encephalitis is a major issue as immunosuppressive treatments can be deleterious in case of viral infection. The European bat lyssavirus type 1, a virus related to rabies virus, is endemic in European bats. No human case has yet been reported in Western Europe. A 59 year-old patient without specific past medical history died from encephalitis.

High prevalence of anal high-grade squamous intraepithelial lesions, and prevention through human papillomavirus vaccination, in young men who have sex with men living with HIV
15 May 2021
Abstract Background Men who have sex with men (MSM) are at high risk for HPV-related anal cancer. Little is known about the prevalence of low-grade squamous intraepithelial lesions (LSIL) and the anal cancer precursor, high-grade squamous intraepithelial lesions (HSIL), among young MSM living with HIV (MSMLWH).

Weight Change Following Antiretroviral Therapy Switch in People with Viral Suppression: Pooled Data from Randomized Clinical Trials
14 May 2021
Abstract Background We sought to identify factors associated with weight gain in randomized clinical trials of antiretroviral (ART) switch. Methods We explored the effects of demographic factors, clinical characteristics, and ART on weight gain in a pooled analysis of 12 prospective clinical trials, wherein virologically-suppressed people with HIV (PWH) were randomized to switch or remain on stable ART.

Is 3 feet of physical distancing enough?
14 May 2021
SARS-CoV-2 Physical distancing Statistical significance Exposure misclassification Quantitative bias analysis
Immediate reactions following the first dose of the SARS-CoV2 mRNA vaccines do not preclude second dose administration
Addressing COVID19 vaccine hesitancy and minimizing potential vaccine contraindications are critical to combat the ongoing pandemic. We describe a practical approach to immediate adverse events after the first dose of the SARS-CoV2 mRNA vaccines, focusing on allergic reactions with respect to their diagnosis and management.

Evaluating the Presence of Replication-Competent SARS-CoV-2 from Nursing Home Residents with Persistently Positive RT-PCR Results

Replication-competent virus has not been detected in individuals with mild to moderate COVID-19 more than 10 days after symptom onset. It is unknown whether these findings apply to nursing home residents. Of 273 specimens collected from nursing home residents >10 days from the initial positive test, none were culture positive.

Increased peripheral blood neutrophil activation phenotypes and NETosis in critically ill COVID-19 patients: a case series and review of the literature

Background
Increased inflammation has been well defined in COVID-19, while definitive pathways driving severe forms of this disease remain uncertain. Neutrophils are known to contribute to immunopathology in infections, inflammatory diseases and acute respiratory distress syndrome (ARDS), a primary cause of morbidity and mortality in COVID-19

Reply to Author

Expanded Analysis of 20 Pneumococcal Serotypes Associated With Radiographically Confirmed Community-Acquired Pneumonia in Hospitalized US Adults

Background
Streptococcus pneumoniae is a causative agent of community-acquired pneumonia (CAP). The 13-valent pneumococcal conjugate vaccine (PCV13) has significantly decreased the burden of PCV13-serotype pneumococcal disease; however, disease due to nonvaccine serotypes remains substantial

Perinatal Depressive Symptoms, HIV Suppression, and the Underlying Role of ART Adherence: A Longitudinal Mediation Analysis in the IMPAACT P1025 Cohort

Background
Women with HIV have higher risk of depressive symptoms in the perinatal period. Evidence on how perinatal depressive symptoms affect viral suppression (VS) and adherence to antiretroviral therapy (ART) remains limited. Methods Perinatal depressive symptoms were assessed using 6 items from the AIDS Clinical Trials Group (ACTG) Quality of Life questionnaire

Efficacy, Safety and Tolerability of Pyronaridine-artesunate in Asymptomatic Malaria-infected Individuals: a Randomized Controlled Trial

Background
Pyronaridine-artesunate (PA) is a registered artemisinin-based combination therapy, potentially useful for mass drug administration campaigns. However, further data are needed to evaluate its efficacy, safety and tolerability as full or incomplete treatment in asymptomatic Plasmodium falciparum-infected individuals

Prevalence of genital human papillomavirus by age and race/ethnicity among males

Background
Genital and oral cancers are often caused by human papillomavirus (HPV) types that can be prevented through HPV vaccination. Since HPV is sexually transmitted, knowledge of penile prevalence of vaccine-type HPV among US males can help
predict potential disparities in these cancers. This study examines penile HPV prevalence by age and race/ethnicity among males.

Development of the Three Antimicrobial Stewardship E’s (TASE) framework and Association between Stewardship Interventions and intended Results (ASIR) analysis to identify key facility-specific interventions and strategies for successful antimicrobial stewardship

Abstract

Successful antimicrobial stewardship (AS) interventions have been described previously. Currently, a uniform operational approach to planning and implementing successful AS interventions does not exist.

SARS-CoV-2 transmission in intercollegiate athletics not fully mitigated with daily antigen testing

Abstract

High-frequency, rapid-turnaround SARS-CoV-2 testing continues to be proposed as a way of efficiently identifying and mitigating transmission in congregate settings. However, two SARS-CoV-2 outbreaks occurred among intercollegiate university athletic programs during the fall 2020 semester despite mandatory directly observed daily antigen testing.


Abstract

Because of the increased risk for severe coronavirus disease 2019 (COVID-19), the Advisory Committee on Immunization Practices (ACIP) initially prioritized COVID-19 vaccination for persons in long-term care facilities (LTCF), persons aged ≥65 years, and persons aged 16-64 years with high-risk medical conditions when there is limited vaccine supply.

Sustainable surveillance of neglected tropical diseases for the post-elimination era

Abstract

The World Health Organisation 2030 Roadmap for neglected tropical diseases (NTDs) emphasises the importance of strengthened, institutionalised “post-elimination” surveillance. The required shift from disease-siloed, campaign-based programming to routine, integrated surveillance and response activities presents epidemiological, logistical and financial challenges, yet practical guidance on

Influenza Vaccination in Health Centers during the COVID-19 Pandemic—United States, November 7–27, 2020

Abstract

Influenza vaccination is the most effective way to prevent influenza and influenza-associated complications including those leading to hospitalization. Resources otherwise used for influenza could support caring for patients with Coronavirus Disease 2019 (COVID-19).

Results of a Shortened Quarantine Protocol on a Midwestern College Campus

Abstract

A shortened quarantine protocol following SARS-CoV-2 exposure was implemented on a college campus. We assessed data on exposures, symptoms and tests on 1,152 individuals released from quarantine on Day 7. A shortened quarantine period for asymptomatic individuals with negative tests can be implemented with low risk.

The Desirability of Outcome Ranking for the Management of Antimicrobial Therapy (DOOR MAT) Reveals Improvements in the Treatment of Bloodstream Infection Caused by Escherichia coli and Klebsiella pneumoniae in Patients from the Veterans Health Administration
12 May 2021
Abstract
Background
Reductions in the use of broad-spectrum antibiotics is a cornerstone of antimicrobial stewardship. We aim to demonstrate the use of Desirability of Outcome Ranking Approach for the Management of Antimicrobial Therapy (DOOR MAT) to evaluate the treatment of Escherichia coli and Klebsiella pneumoniae bloodstream infection in patients from the Veterans Health Administration (VHA)

Positive correlation between Candida auris skin-colonization burden and environmental contamination at a ventilator-capable skilled nursing facility in Chicago

12 May 2021
Abstract
Background
Candida auris is an emerging multidrug-resistant yeast that contaminates healthcare environments causing healthcare-associated outbreaks. The mechanisms facilitating contamination are not established.

Methods

Adverse pregnancy outcomes, maternal complications, and severe illness among U.S. delivery hospitalizations with and without a COVID-19 diagnosis

12 May 2021
Abstract
Background
Evidence on risk for adverse outcomes from COVID-19 among pregnant women is still emerging. We examined the association between COVID-19 at delivery and adverse pregnancy outcomes, maternal complications, and severe illness, whether these associations differ by race/ethnicity; and described discharge status by COVID-19 diagnosis and maternal complications

Intersection of Syphilis and HIV Networks to Identify Opportunities to Enhance HIV Prevention

12 May 2021
Abstract
Background
HIV and syphilis infection continue at disproportionate rates among minority men who have sex with men (MSM) in the United States. The integration of HIV genetic clustering with partner services can provide important insight into local epidemic trends to guide interventions and control efforts

Cruise ship travel in the era of COVID-19: A summary of outbreaks and a model of public health interventions

12 May 2021
Abstract
Background
Cruise travel contributed to SARS-CoV-2 transmission when there were relatively few cases in the United States. By March 14, 2020, the Centers for Disease Control and Prevention (CDC) issued a No Sail Order suspending U.S. cruise operations; the last U.S. passenger ship docked on April 16.

Methods
We analyzed SARS-CoV-2 outbreaks on cruises in U.S. waters or carrying U.S.

One scoring system does not fit all health care settings

11 May 2021
Reply to Karakonstantis, Zervou, and Rasmussen

11 May 2021

A Multi-Center Evaluation of Probiotic Use for the Primary Prevention of Clostridioides difficile infection

11 May 2021
Abstract
Background
Primary prevention of C. difficile infection (CDI) is a priority for hospitals and probiotics have the potential to interfere with colonization and infection with C. difficile.

This study evaluated the impact of a computerized clinical decision support tool (CCDS) to prescribe probiotics for primary prevention of CDI among adult hospitalized patients

The Utility of Scoring Systems in Determining the Need for Echocardiography in Patients with Staphylococcus aureus Bacteremia

11 May 2021

SARS-CoV-2 infectivity by viral load, S gene variants and demographic factors and the utility of lateral flow devices to prevent transmission

11 May 2021
Abstract

How SARS-CoV-2 infectivity varies with viral load is incompletely understood. Whether rapid point-of-care antigen lateral flow devices (LFDs) detect most potential transmission sources despite imperfect clinical sensitivity is unknown. Methods: We combined SARS-CoV-2 testing and contact tracing data from England between 01-September-2020 and 28-February-2021.

Risk Factors Associated with Carbapenemase Producing Carbapenem-Resistant Enterobacteriaceae (CP-CRE) Positive Cultures in a Cohort of U.S. Veterans

Introduction

Carbapenem-resistant Enterobacterales (CRE) cause approximately 13,100 infections with 8% mortality in the United States annually. The subset of carbapenemase-producing CRE (CP-CRE) infections have much higher mortality rates (40%-50%). There has been little research on characteristics unique to CP-CRE.

Do we have enough data to apply VIRSTA score in clinical practice?

Trends over time in the risk of adverse outcomes among patients with SARS-CoV-2 infection

Abstract

We aimed to describe trends in adverse outcomes among patients who tested positive for SARS-CoV-2 between February and September 2020 within a national healthcare system. Methods: We identified enrollees in the national U.S. Veterans Affairs healthcare system who tested positive for SARS-CoV-2 between 2/28/2020 and 9/30/2020 (n=55,952), with follow-up extending to 11/19/2020.

If, when, and how to use rifampin in acute staphylococcal periprosthetic joint infections, a multicentre observational study

Abstract

Rifampin is generally advised in the treatment of acute staphylococcal periprosthetic joint infections (PJI). However, if, when, and how to use rifampin remains a matter of debate. We evaluated the outcome of patients treated with and without rifampin, and analyzed the influence of timing, dose and co-antibiotic.

Molecular epidemiology, natural history and long-term outcomes of multi-drug resistant Enterobacterales colonization and infections among solid organ transplant recipients

Abstract

Multidrug-resistant Enterobacterales (MDR-E), including carbapenem-resistant and third-generation cephalosporin-resistant Enterobacterales (CRE, CefR-E), are major pathogens following solid organ transplantation (SOT). Methods: We prospectively studied patients who underwent lung, liver and small bowel transplant from February 2015-March 2017.

Pertussis immunization during pregnancy: assessment of the role of maternal antibodies on immune responses in term and preterm born infants

Abstract

Limited data exist on the impact of maternal Tetanus, Diphtheria, acellular Pertussis (aP) (Tdap) vaccination for preterm born infants. We report its effect at birth and on antibody-mediated immune responses to a DTaP-IPV-HB-PRP~T vaccine in preterm compared to term infants.

Clinical Microbiology and Infection

Methodological evaluation of bias in observational COVID-19 studies on drug effectiveness: author's response

16 May 2021
'A prospective multicentre surveillance study to investigate the risk associated with contaminated sinks in the intensive care unit'– Author's reply

Spreading of a new SARS-CoV-2 N501Y spike variant in a new lineage

Nursing practice is associated with high risk for hepatitis C virus infection

Persistent COVID-19 symptoms are highly prevalent 6 months after hospitalization: results from a large prospective cohort

In vivo fitness of carbapenem-resistant Acinetobacter baumannii (CRAB) strains in murine infection is associated with treatment failure in human infections

How the European In Vitro Diagnostic Regulation could negatively impact the European response to the next pandemic: an urgent call for action before May 2022

Outbreak investigation of symptomatic SARS-COV-2 VOC 202012/01-lineage B.1.1.7 infection in healthcare workers, Italy
Public health laboratories (PHLs) continue to face internal and external challenges to their abilities to provide successful, timely responses to public health crises and emerging threats. These laboratories are mandated to maintain the health of their communities by identifying, diagnosing, and warning constituents of potential and real health emergencies.

The coronavirus disease 2019 (COVID-19) pandemic, caused by severe acute respiratory disease coronavirus 2 (SARS-CoV-2), has led to millions of confirmed cases and deaths worldwide. Efficient diagnostic tools are in high demand, as rapid and large-scale testing plays a pivotal role in patient management and decelerating disease spread.

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) causes coronavirus disease 2019 (COVID-19), a rapidly evolving pandemic worldwide with at least 68 million COVID-19-positive cases and a mortality rate of about 2.2%, as of 10 December 2020. About 20% of COVID-19 patients exhibit moderate to severe symptoms.

The intestinal mycobiome as a determinant of host immune and metabolic health
Mackenzie W Gutierrez, Marie-Claire Arrieta

Local antifungal immunity in the kidney in disseminated candidiasis
Chetan V Jawale, Partha S Biswas

Innate immunity and HBV persistence
Carolina Chiale, Anthony M Marchese, Michael D Robek

The virome of vector mosquitoes
João PP de Almeida, Eric RGR Aguiar, Juliana N Armache, Roenick P Olmo, João T Marques

Remdesivir for the Treatment of Covid-19: The Value of Biochemical Studies
Götte Matthias

Mapping conformational epitopes by NMR spectroscopy
Ana P Valente, Mariana Manzano-Rendeiro
Diagnostic Microbiology and Infectious Disease

The challenge of COVID-19 for a Clinical Microbiology Department
14 May 2021
Publication date: Available online 13 May 2021
Source: Diagnostic Microbiology and Infectious Disease
Author(s): Pilar Catalán, Roberto Alonso, Luis Alcalá, Mercedes Marín, Zaira Moure, Paula Pescador, Emilio Bouza, Patricia Munoz

Performance of PhenoMatrix for the detection of Group B Streptococcus from recto-vaginal swabs
14 May 2021
Publication date: Available online 13 May 2021
Source: Diagnostic Microbiology and Infectious Disease
Author(s): Claudio Foschi, Gabriele Turello, Tiziana Lazzarotto, Simone Ambretti

Microbiological investigation of samples collected from healthy middle ears during cochlear implant surgery
13 May 2021
Publication date: August 2021
Source: Diagnostic Microbiology and Infectious Disease, Volume 100, Issue 4
Author(s): Mahmut Tayyar Kalcıoğlu, Riza Durmaz, Oğuz Ari, Serdal Celik, Serma Karabudak

Detection of SARS-CoV-2 IgG antibodies in dried blood spots
13 May 2021
Publication date: Available online 13 May 2021
Source: Diagnostic Microbiology and Infectious Disease
Author(s): Coleman T. Turgeon, Karen A. Sanders, Dane Granger, Stephanie L. Nett, Heather Hilgart, Dietrich Matern, Elitza S. Theel

Usefulness of the GenMark ePlex RPP assay for the detection of respiratory viruses compared to the FTD21 multiplex RT-PCR
11 May 2021
Publication date: Available online 11 May 2021
Source: Diagnostic Microbiology and Infectious Disease
Author(s): Fiona Steiner, Stefan Schmutz, Rainer Gosert, Jon B. Huder, Patrick M. Redli, Riccarda Capaul, Hans H. Hirsch, Jürg Böni, Andrea Zbinden

Molecular characterization of decreased susceptibility to ceftriaxone and genotyping of Neisseria gonorrhoeae isolates in New Delhi, India
11 May 2021
Publication date: Available online 11 May 2021
Source: Diagnostic Microbiology and Infectious Disease
Author(s): Neeraj Mahajan, Prof. Seema Sood, Prof. Bimal Kumar Das, Prof. Arti Kapil, Prof. Vishnubhatla Sreenivas, Prof. Hemanata Kumar Kar, Prof. Vinod Kumar Sharma

Emerging Infectious Diseases Journal - ahead of print

Association between Birth Region and Time to Tuberculosis Diagnosis among Non-US-Born Persons in the United States
12 May 2021
A. Talwar et al.

Increased Incidence of Antimicrobial-Resistant Nontyphoidal Salmonella Infections, United States, 2004–2016
12 May 2021
F. Medalla et al.

Possible Human-to-Dog Transmission of SARS-CoV-2, Italy, 2020
12 May 2021
N. Decaro et al.
Autochthonous Thelazia callipaeda Infection in Dog, New York, USA, 2020
12 May 2021
A. Schwartz et al.

COVID-19 Outbreak on a Passenger Ship and Assessment of Response Measures, Greece, 2020
12 May 2021
S. Hatzianastasiou et al.

Industry Sectors Highly Affected by Worksite Outbreaks of Coronavirus Disease, Los Angeles County, California, USA, March 19–September 30, 2020
12 May 2021
Z. Contreras et al.

Rocky Mountain Spotted Fever in a Large Metropolitan Center, Mexico–United States Border, 2009–2019
12 May 2021
O. E. Zazueta et al.

Cross-Sectional Serosurvey of Companion Animals Housed with SARS-CoV-2–Infected Owners, Italy
11 May 2021
B. Colitti et al.

Proposal for Human Respiratory Syncytial Virus Nomenclature below the Species Level
10 May 2021
V. Salimi et al.

Molecular Characterization and Antimicrobial Resistance in Neisseria gonorrhoeae, Nunavut Region of Inuit Nunangat, Canada, 2018–2019
10 May 2021
A. E. Singh et al.

Retrospective Identification of Early Autochthonous Case of Crimean-Congo Hemorrhagic Fever, Spain, 2013
10 May 2021
A. Negredo et al.

Brucellosis Outbreak Traced to Commercially Sold Camel Milk through Whole-Genome Sequencing, Israel
10 May 2021
S. Bardenstein et al.

Leishmaniases in the European Union and Neighboring Countries
10 May 2021
E. Berriatua et al.

Fluid Motion and Frozen Time
10 May 2021
B. Breedlove

Role of Anopheles stephensi Mosquitoes in Malaria Outbreak, Djibouti, 2019
10 May 2021
V. de Santi et al.

Incursion of Novel Highly Pathogenic Avian Influenza A(H5N8) Virus, the Netherlands, October 2020
10 May 2021
N. Beerens et al.

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Performances, feasibility and acceptability of nasopharyngeal swab, saliva and oral-self sampling swab for the detection of severe acute respiratory syndrome coronavirus 2
14 May 2021
Abstract Molecular diagnosis on nasopharyngeal swabs (NPS) is the current standard for COVID-19 diagnosis, but saliva may be an alternative specimen to facilitate access to diagnosis. We compared analytic performances, feasibility and acceptability of NPS, saliva, and oral-self sampling swab for the detection of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)

Successful use of azithromycin for Escherichia coli –associated renal allograft malakoplakia: a report of two cases
14 May 2021
Abstract Malakoplakia is a chronic granulomatous disease associated with incomplete clearance of bacterial pathogens. A multimodal approach to therapy includes antimicrobials with intracellular activity, reduction in immunosuppression, and debulking of lesions. Azithromycin has an intracellular mechanism of action and enhanced Gram-negative activity compared to other macrolides

Cryptococcal infection of the colon in a patient without concurrent human immunodeficiency infection: a case report and literature review
13 May 2021
Abstract Cryptococcosis is a fungal infection that is rarely reported in patients without human immunodeficiency virus (HIV) infection, especially when the central nervous system (CNS) or pulmonary system is not involved

Incidence of enterovirus in patients with acute gastroenteritis
13 May 2021
Abstract Enteroviruses (EV) have been linked to lymphocytic meningitis and exanthems, but they may also be involved in acute gastroenteritis (AGE), a condition whose aetiologial agent often remains unidentified. In this work 1214 samples from individuals with AGE were studied with the aim of establishing the incidence of EV

Rapid detection of NDM and VIM carbapenemase encoding genes by recombinase polymerase amplification and lateral flow--based detection
11 May 2021
Abstract Carbapenemase-producing organisms (CPOs) pose a serious clinical threat and rapid detection tools are essential to aid in patient management. We developed rapid and simple molecular tests to detect blaNDM-type and blaVIM-type carbapenemase genes using recombinase polymerase amplification (RPA) combined with a lateral flow detection

Acute facial nerve palsy in children in a Lyme disease–endemic area in the Netherlands
11 May 2021
Abstract We assessed the prevalence of Lyme neuroborreliosis in children with acute facial nerve palsy in a Lyme-endemic region and patient characteristics associated with this. All children visiting one of three participating hospitals between January 2010 and December 2016 were included in the study

Evaluation of the Hologic Panther Fusion MRSA Assay for the detection of MRSA in ESwab specimens obtained from nose, throat, and perineum
11 May 2021
Abstract Enrichment culture (EC) remains gold standard for detecting MRSA colonisation, but molecular methods shorten turnaround time. The CE-marked automated Hologic Panther Fusion MRSA Assay (HPFM) is validated for nasal swabs. We compared HPFM with EC following an in-house PCR for detection of MRSA in nasal, pharyngeal, and perineal ESwabs
**Eurosurveillance latest updates**

**Mosquito surveillance of West Nile and Usutu viruses in four territorial units of Slovakia and description of a confirmed autochthonous human case of West Nile fever, 2018 to 2019**

*13 May 2021*

Background Despite the known circulation of West Nile virus (WNV) and Usutu virus (USUV) in Slovakia, no formal entomological surveillance programme has been established there thus far. Aim To conduct contemporaneous surveillance of WNV and USUV in different areas of Slovakia and to assess the geographical spread of these viruses through mosquito vectors.

**Epidemiology of human West Nile virus infections in the European Union and European Union enlargement countries, 2010 to 2018**

*13 May 2021*

Background West Nile virus (WNV) circulates in an enzootic cycle involving mosquitoes and birds; humans are accidental hosts. Aim We analysed human WNV infections reported between 2010 and 2018 to the European Centre for Disease Prevention and Control to better understand WNV epidemiology.

**Unprecedented increase of West Nile virus neuroinvasive disease, Spain, summer 2020**

*13 May 2021*

Cases of West Nile neuroinvasive disease (WNND) in Spain increased in summer 2020. Here we report on this increase and the local, regional and national public health measures taken in response. We analysed data from regional surveillance networks and the National Epidemiological Surveillance Network, both for human and animal West Nile virus (WNV) infection.

**Infection**

**Multiple organ failure might be an indication for prophylactic antifungal therapy in acute pancreatitis**

*14 May 2021*

Abstract Purpose Significant conflicts regarding prophylactic antifungal treatment in acute pancreatitis (AP) exist among current literatures and guidelines. The key to resolving this controversial issue is to identify risk factors for intra-abdominal fungal infection (AFI) among patients with AP.

**Effects of a 4-year intervention on hand hygiene compliance and incidence of healthcare associated infections: a longitudinal study**

*14 May 2021*

Abstract Purpose Studies have demonstrated improvements in hand hygiene (HH) compliance through interventions, noting the negative association of HH and healthcare associated infections (HAIs), but how to sustain long-term improvement is still unknown in the Chinese population.

**COVID-19 is not “just another flu”: a real-life comparison of severe COVID-19 and influenza in hospitalized patients in Vienna, Austria**

*13 May 2021*

Abstract Background COVID-19 is regularly compared to influenza. Mortality and case-fatality rates vary widely depending on incidence of COVID-19 and the testing policy in affected countries. To date, data comparing hospitalized patients with COVID-19 and influenza is scarce.

**Strongyloidesis in the COVID era: a warning for an implementation of the screening protocol**

*10 May 2021*

**Self-sampling versus health care professional-guided swab collection for SARS-CoV-2 testing**
Abstract

Purpose To evaluate the diagnostic reliability and practicability of self-collected oropharyngeal swab samples for the detection of SARS-CoV-2 infection as self-sampling could enable broader testing availability and reduce both personal protective equipment and potential exposure.

National Early Warning Score 2 (NEWS2) better predicts critical Coronavirus Disease 2019 (COVID-19) illness than COVID-GRAM, a multi-centre study

Infection Control & Hospital Epidemiology - FirstView Article

The impact of workload on hand hygiene compliance: Is 100% compliance achievable?

Need of the hour: Dental stewardship

Improving antibiotic prescribing for acute bronchitis in the ambulatory setting using a multifaceted approach

Surgeons’ mental models of surgical site infection: Insights into adherence with complex prevention bundles

Surveillance cultures following a regional outbreak of carbapenem-resistant Acinetobacter baumannii


Inappropriate outpatient antibiotic use in children insured by Kentucky Medicaid

Seasonal variation of hospital-acquired bloodstream infections: A national cohort study

Incidence of postprocedural coronavirus disease 2019 (COVID-19) at an urban academic medical center
Saliva and its potential in coronavirus disease 2019 (COVID-19) cannot be ignored: A point of view
04 May 2021
Published online by Cambridge University Press:

Taking advantage of coronavirus disease 2019 (COVID-19) to improve hospital models of care: Are we moving in the right direction?
04 May 2021
Published online by Cambridge University Press:

Coronavirus disease 2019 (COVID-19): Faith healing or science? An old-time problem
03 May 2021
Published online by Cambridge University Press:

“Original antigenic sin”: A potential threat beyond the development of booster vaccination against novel SARS-CoV-2 variants
03 May 2021
Published online by Cambridge University Press:

Reinfection with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) B.1.1.7 variant in an immunocompromised adolescent
03 May 2021
Published online by Cambridge University Press:

International Journal of Infectious Diseases

Active Prescription of Low-dose Aspirin During or Prior to Hospitalization and Mortality in COVID-19 — A Systematic Review and Meta-analysis of Adjusted Effect Estimates
16 May 2021
Publication date: Available online 15 May 2021Source: International Journal of Infectious DiseasesAuthor(s): Januar Wibawa Martha, Raymond Pranata, Michael Anthonius Lim, Arief Wibowo, Mohammad Rizki Akbar

Test-based De-isolation in COVID-19 Immunocompromised patients: Ct value versus SARS-CoV-2 viral cultures
16 May 2021

Rapid discrimination between tuberculosis and sarcoidosis using next-generation sequencing
16 May 2021
Publication date: Available online 15 May 2021Source: International Journal of Infectious DiseasesAuthor(s): Yencheng Chao, Jieyi Li, Ziying Gong, Chun Li, Maosong Ye, Qunying Hong, Xiaokai Zhao, Yonghua Sun, Zhonghai Chen, Shaojie Zhang, Jie Hu, Yong Zhang, Huijun Zhang, Xiaobo Xu, Xinyu Zhang, Dilbar Anwar, Yingyong Hou, Daoyun Zhang, Xin Zhang

Weaponizing water as an instrument of war in Syria: impact on diarrhoeal disease in Idlib and Aleppo governorates, 2011-2019
16 May 2021
Association of Hypothermia with Increased Mortality Rate in SARS-CoV-2 Infection

16 May 2021
Publication date: Available online 15 May 2021Source: International Journal of Infectious DiseasesAuthor(s): Naaz Fatteh, Glen E. Sutherland, Radleigh G. Santos, Rita Zeidan, Alexandra P. Gastesi, Christopher D. Naranjo

Incidence and microbiological characteristics of neonatal late onset sepsis in a Neonatal Intensive Care Unit in Peru

16 May 2021
Publication date: Available online 15 May 2021Source: International Journal of Infectious DiseasesAuthor(s): Cecilia Herbozo, Irene Julca, Fiorella Flores, Roger Hernandez, Jaime Zegarra

Clinical presentation, outcomes and factors associated with mortality: a prospective study from three COVID-19 referral care centers in West Africa

16 May 2021

Live poultry feeding and trading network and the transmission of avian influenza A(H5N6) virus in a large city in China, 2014-2015

16 May 2021
Publication date: Available online 14 May 2021Source: International Journal of Infectious DiseasesAuthor(s): Rusheng Zhang, Zhao Lei, Chan Liu, Yuanzhao Zhu, Jingfang Chen, Dong Yao, Xinhuia Ou, Wen Ye, Zheng Huang, Li Luo, Biancheng Sun, Tianmu Chen

Sofosbuvir Resistance-associated Substitutions in the Palm Domain of HCV-NS5B RNA Dependent RNA Polymerase; Study of two Sofosbuvir non-responders

16 May 2021
Publication date: Available online 14 May 2021Source: International Journal of Infectious DiseasesAuthor(s): Sana Ullah, Muhammad Ali, Asmat Shaheen, Fatima Zia, Lubna Rahman, Sidra Rahman, Hammad Ali, Misbahud Din, Abdul Waris, Zabta Khan Shinwari

Serum microRNAs predict response of patients with chronic hepatitis B to antiviral therapy

14 May 2021
Publication date: Available online 14 May 2021Source: International Journal of Infectious DiseasesAuthor(s): Bingqin Tan, Mei Liu, Liming Wang, Jinhuan Wang, Fang Xiong, Xuli Bao, Yao Gao, Lele Yu, Jun Lu

Transient perivascular inflammation of the carotid artery (TIPIC) syndrome in a patient with COVID-19

14 May 2021
Publication date: Available online 14 May 2014Source: International Journal of Infectious DiseasesAuthor(s): Nicola Mumoli, Isabella Evangelista, Alessandra Colombo, Giulia Conte, Antonino Mazzone, Stefano Barco

Post-vaccination COVID-19 cases among healthcare workers at Siloam Teaching Hospital, Indonesia

14 May 2021
Publication date: Available online 13 May 2021Source: International Journal of Infectious DiseasesAuthor(s): Cucunawangsih Cucunawangsih, Ratna Sari Wijaya, Nata Pratama Hardjo Lugito, Ivet Suriapranata

Diagnostic yield of Xpert MTB/RIF on Contrast-enhanced Ultrasound Guided Pleural Biopsy Specimens for Pleural Tuberculosis

14 May 2021
Potential value of circulating endothelial cells for the diagnosis and treatment of COVID-19

Publication date: Available online 14 May 2021
Source: International Journal of Infectious Diseases
Author(s): Wenwen Sun, Yiming Zhou, Wenting Li, Yin Wang, kunlong Xiong, Zhemin Zhang, Lin Fan

Disease burden of bloodstream infections caused by antimicrobial-resistant bacteria: a population-level study—Japan, 2015-2018

Publication date: Available online 14 May 2021
Source: International Journal of Infectious Diseases
Author(s): Xuchang Zhang, Man Jiang, Jianshe Yang

The initial impact of a national BNT162b2 mRNA COVID-19 vaccine rollout

Publication date: Available online 14 May 2021
Source: International Journal of Infectious Diseases
Author(s): Ahmed Zaqout, Joanne Daghfal, Israa Alaqad, Saleh A.N. Hussein, Abdullah Aldushain, Muna A. Almaslamani, Mohammed Abukhattab, Ali S. Omrani

Exploring clustering of leprosy in the Comoros and Madagascar: a geospatial analysis

Publication date: Available online 13 May 2021
Source: International Journal of Infectious Diseases
Author(s): Shinya Tsuzuki, Nobuaki Matsunaga, Koji Yahara, Keigo Shibayama, Motoyuki Sugai, Norio Ohmagari


Publication date: Available online 13 May 2021
Source: International Journal of Infectious Diseases
Author(s): Bernnedine S. Smaghi, Julie Collins, Rosheila Dagina, Gilbert Hiawalyer, Stefanie Vaccher, James Flint, Tambri Housen

Clinical evaluation of a developed paper-based Dengue NS1 rapid diagnostic test in febrile illness patients

Publication date: Available online 12 May 2021
Source: International Journal of Infectious Diseases
Author(s): Muhammad Hatta Prabowo, Supawat Chatchen, Patsamon Rijiravanich, Pana Klamkam, Thanit Chalermwatanachai, Kriengsak Limkittikul, Werasak Surareungchai

Failure of rapid diagnostic tests in Plasmodium falciparum malaria cases in UK travellers: identification and characterisation of the parasites

Publication date: Available online 13 May 2021
Source: International Journal of Infectious Diseases
Author(s): Debbie Nolder, Lindsay Stewart, Julie Tucker, Amy Ibrahim, Adam Gray, Tumena Corrah, Carmel Gallagher, Laurence John, Edel O’Brien, Dinesh Aggarwal, Ernest Diez Benavente, Donelly van Schalkwyk, Gisela Henriques, Nuno Sepúlveda, Susana Campino, Peter Chiodini, Colin Sutherland, Khalid B

Contrasting Epidemiology and Genetic Variation of Plasmodium vivax Infecting Duffy Negatives across Africa

Publication date: Available online 12 May 2021
Source: International Journal of Infectious Diseases
Author(s): Eugenia Lo, Gianluca Russo, Kareen Pestana, Daniel Kepple, Beka
Raya Abargero, Ghyslaine Bruna Djeunang Dongho, Karthigayan Gunalan, Louis H Miller, Muzamil Mahdi Abdel Hamid, Delenasaw Yewhalaw, Giacomo Maria Paganotti

Tracking COVID-19 with wastewater to understand asymptomatic transmission
12 May 2021
Publication date: Available online 11 May 2021Source: International Journal of Infectious Diseases
Author(s): Dhammika Leshan Wannigama, Mohan Amarasiri, Cameron Hurst, Phathranit Phatharaporjaroj, Shuichi Abe, Parichart Hongsing, S.M

DETECTION OF ACTIVE MYCOBACTERIUM TUBERCULOSIS AT 6TH MONTH EXIT AMONG DECLARED SUCCESSFULLY TREATED CASES IN PAKISTAN
12 May 2021
Publication date: Available online 12 May 2021Source: International Journal of Infectious Diseases

Anthrax meningoencephalitis complicated with brain abscess — A case report
12 May 2021
Publication date: Available online 12 May 2021Source: International Journal of Infectious Diseases
Author(s): Corneliu Petru Popescu, Mihaela Zaharia, Maria Nica, Delia Stanciuc, Ruxandra Moroti, Serban Benea, Violeta Melinte, Teodor Vasile, Emanoil Ceausu, Simona Ruta, Simin Ayse Florescu

Puzzling paracoccidioidomycosis — Factors associated with the severity of Paracoccidioides lutzii infections
12 May 2021
Publication date: Available online 12 May 2021Source: International Journal of Infectious Diseases
Author(s): Andreia Ferreira Nery, Zoilo Pires de Camargo, Anderson Messias Rodrigues, Tiago Ferreira Portela, Hugo Dias Hoffmann-Santos, Bruno Gonçalves Pinheiro, Ana Paula Possa, Leticia Rossetto da Silva Cavalcante, Ferry Hagen, Rosane Christine Hahn

“Starry Sky” appearance on Brain CT, neurocysticercal encephalitis
12 May 2021
Publication date: Available online 11 May 2021Source: International Journal of Infectious Diseases
Author(s): Ibrahima Niang, Balla Ndiaye, Papa Malick Dibor Diouf, Axel Kayembe, Youssoupha Kasse, Sokhna Ba

Early detection of P.1 variant of SARS-CoV-2 in a cluster of cases in Salvador, Brazil
12 May 2021
Publication date: Available online 12 May 2021Source: International Journal of Infectious Diseases

Epidemiological and clinical features of SARS-CoV-2 cluster infection in Anhui Province, Eastern China
11 May 2021
Publication date: Available online 11 May 2021Source: International Journal of Infectious Diseases
Author(s): Jiabing Wu, Xiuzhi Chen, Lei Gong, Shaohu Huo, Xuehuan Gao, Shuang Nie, Fang Chen, Sai Hou, Dandan Song, Wanwan Ma, Xuqin Jiang, Zhirong Liu

Sporotrichoid distributed tuberculous panniculitis as a late complication of intravesical Bacillus Calmette–Guérin (BCG) immunotherapy
11 May 2021
Publication date: Available online 10 May 2021Source: International Journal of Infectious Diseases
Author(s): Nina Nielsens, Liliane Marot, Marie Baek
Journal of Clinical Virology

Implementation of an in-house real-time reverse transcription-PCR assay to detect the emerging SARS-CoV-2 N501Y variants
14 May 2021

Performance Characteristics of the Abbott Alinity m SARS-CoV-2 Assay
14 May 2021

Expanding access to SARS-CoV-2 IgG and IgM serologic testing using fingerstick whole blood, plasma, and rapid lateral flow assays
12 May 2021

The Impact of Viral Infections on Childhood Central Nervous System Infections
11 May 2021

Comparison of the clinical and analytical performance of Alinity m HR HPV and cobas 4800 HPV assays in a population-based screening setting
10 May 2021

Real-life evaluation of the Sofia SARS-CoV-2 antigen assay in a large tertiary care hospital
10 May 2021

Journal of Hospital Infection

Impact of the Surgical Safety Checklist on Surgical Site Infections, Antimicrobial Resistance, Antimicrobial Consumption, Costs and Mortality
15 May 2021

In 2010, following the recommendations of the World Health Organization (WHO), our hospital implemented the Surgical Safety Program centred around a surgical safety checklist. Effectiveness of a SARS-CoV-2 infection-prevention model in elective surgery patients, a prospective study: Does Universal Screening Make Sense?.
13 May 2021

This observational study included patients who underwent preoperative COVID-19 screening in order to preserve the safety of the patient. Of 8740 surgical procedures, in 2292 RT-PCR for SARS-CoV-2 was performed, with 0.0022% incidence of positive PCRs. No health-care-associated infections were detected

SARS-CoV-2: a general recommendation to adhere to governmental regulations cannot be evidence-based
12 May 2021

we do appreciate the systematic analysis of scientific evidence on routes of SARS-CoV-2 transmission and the effect of preventive measures published by Bak et al. resulting in some general and specific recommendations [1]. After a careful compilation of scientific evidence, the authors recommend that the general population should “adhere to regulations currently imposed by your government”

Fast cycle H2O2 nebulisation against frequent healthcare-associated microorganisms: efficacy assessment
10 May 2021
Aiming to control microbial contamination in hospital settings, hydrogen peroxide based technology is currently in use. However, the required long cycles result in prolonged room turnover time, thus precluding a wider implementation of the technology.

Journal of Infection

Genetic Characteristics of a New HIV-1 subtype B/C Intersubtype Circulating Recombinant Form (CRF118_BC) Identified in Yunnan, China
16 May 2021
Recent correspondence in this Journal has highlighted that HIV-1 frequent intersubtype recombinants lead to its rapid evolution, extraordinary genetic variability and vast genetic diversity.1 By the end of April 2021, 117 circulating recombinant form (CRFs) and a large number of unique recombinant forms (URFs) have been very well documented worldwide.

Interventions to reduce infections caused by multidrug resistant Enterobacteriaceae (MDR-E): a systematic review and meta-analysis
14 May 2021
Infections with multidrug-resistant (MDR) pathogens are a major threat for public health. [1] Incidence rates of infections with multidrug-resistant Enterobacteriaceae (MDR-E) are increasing steadily and outbreaks with MDR-E have been reported worldwide. [2] Infections caused by MDR-E have become a major healthcare issue with increasing morbidity, mortality and costs.

The impact of primary care supported shielding on the risk of mortality in people vulnerable to COVID-19: English sentinel network matched cohort study
14 May 2021
In England, COVID-19-related excess mortality largely occurred between weeks 12 to 22 of the year 2020 and primarily affected people age 45 years and older (Figure 1) [1-4]. Insufficient protection for care home staff and residents [5-7], exacerbation of existing health inequalities [8,9] and missed diagnoses of common conditions including cancer, particularly haematological malignancies and

Editorial Board
13 May 2021
Mortality risk in patients infected with SARS-CoV-2 of the lineage B.1.1.7 in the UK
13 May 2021
Alcoba-Florez and colleagues [1] recently reported the local transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) of the lineage B.1.1.7 in Tenerife, Spain. This should be a cause for concern because based on current observations, among patients with coronavirus disease 2019 (COVID-19), SARS-CoV-2 of the lineage B.1.1.

Clinical Efficacy of Nitric Oxide Nasal Spray (NONS) for the Treatment of Mild COVID-19 Infection
13 May 2021
Baek et al1 investigated the duration of COVID-19 virus shedding in infected patients and demonstrated that even in patients demonstrating prolonged viral clearance, the virus was no longer viable after 15 days post onset of symptoms. Our study aimed to measure whether nitric oxide nasal spray (NONS) further accelerates this reduction in SARS-CoV-2 RNA load versus a control arm with saline spray.

Asymptomatic SARS-CoV-2-infected children attending hospital with non-COVID-19 diagnoses, March 2020-February 2021
13 May 2021
We read with interest the article by de Paul et al. [1], which highlighted gastrointestinal manifestations of SARS-CoV-2 infection in children. Most children infected with SARS-CoV-2 exhibit COVID-19 symptoms, but about 20-30% may be truly asymptomatic [2], who may
then pose an undiagnosed infection hazard to other hospital staff and patients - especially as children are not yet eligible for

Epidemiology and organ specific sequelae of post-acute COVID19: A Narrative Review
13 May 2021
"Long COVID", a term coined by COVID-19 survivors, describes persistent or new symptoms in a subset of patients who have recovered from acute illness. Globally, the population of people infected with SARS-CoV-2 continues to expand rapidly, necessitating the need for a more thorough understanding of the array of potential sequelae of COVID-19

COVID-19 mortality in Italy: The first wave was more severe and deadly, but only in Lombardy region
13 May 2021
We read with great interest the work by Bongiovanni et al.1, who by comparing patients admitted to emergency room of ASST Rhodense, in Lombardy region, during the first wave (2-8 March 2020) and the second wave (19-25 October 2020), concluded that "the severity and the mortality of COVID-19 infection was lower during the 2nd wave of pandemic"

Potential future implications of the COVID-19 pandemic on Norovirus infections in England
12 May 2021
I read with interest the recent article by Eigner et al., in the Journal of infection, highlighting the reduction in Norovirus (NoV) infections reported in Germany since the introduction of COVID-19 containment measures in 2020 [1]

Long-Term Post-COVID Symptoms and Associated Risk Factors in Previously Hospitalized Patients: A Multicenter Study
10 May 2021
The word is in front of a second pandemic associated with the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), i.e., post-COVID sequelae and "long-haulers". A preprint meta-analysis has found that 80% of COVID-19 survivors exhibit at least one post-COVID symptom after infection [1]

Impact of COVID-19 vaccination program on seroprevalence in blood donors in England, 2021
10 May 2021
We read with interest in this journal the letter of Tré-Hardy et al.1 which contrasts serological responses following mRNA vaccination in individuals with and without prior infection; good responses were seen in all study participants

Journal of Microbiology, Immunology and Infection

Examination of a Chinese-made cryptococcal glucuronoxylomannan antigen test in serum and bronchoalveolar lavage fluid for diagnosing pulmonary cryptococcosis in HIV-negative patients
16 May 2021
Publication date: Available online 15 May 2021Source: Journal of Microbiology, Immunology and InfectionAuthor(s): Zhengtu Li, Mingdie Wang, Peiying Zeng, Zhaoming Chen, Yangqing Zhan, Shaoqiang Li, Ye Lin, Jing Cheng, Feng Ye

Antibiotic resistance in neonates in China 2012-2019 : a multicenter study
16 May 2021
Publication date: Available online 15 May 2021Source: Journal of Microbiology, Immunology and InfectionAuthor(s): Jintong Tan, Yiwen Wang, Xiaohui Gong, Jing Li, Wenhua Zhong, Liqin Shan, Xiaoping Lei, Qian Zhang, Qin Zhou, Youyan Zhao, Chao Chen, Yongjun Zhang
Streptococcus gallolyticus – A potentially neglected pathogen causing neonatal sepsis not covered by routine group B streptococcus screening
16 May 2021
Publication date: Available online 15 May 2021Source: Journal of Microbiology, Immunology and InfectionAuthor(s): Jun Yi Sim, Lan-Wan Wang, Julie Chi Chow, Wei-Yun Hsu, Yu-Chin Chen, Yi-Hsin Chang, Yun Chou, Wei-Yu Chen, Hung-Jen Tang, Tu-Hsuan Chang

Immunological Map in COVID-19
13 May 2021
Publication date: Available online 12 May 2021Source: Journal of Microbiology, Immunology and InfectionAuthor(s): Chung-Hsiang Li, Hsin-Ying Clair Chiou, Ming-Hong Lin, Chang-Hung Kuo, Yu-Chih Lin, Yi-Ching Lin, Chih-Hsing Hung, Chao-Hung Kuo

Good response of low-dose steroid in a patient with COVID-19 pneumonia and autoimmune disease
13 May 2021
Publication date: Available online 12 May 2021Source: Journal of Microbiology, Immunology and InfectionAuthor(s): Yea-Yuan Chang, Wen-Hsiu Wang, Stephane Wen-Wei Ku

Journal of Virology Current Issue

Iminosugar Glucosidase Inhibitors Reduce Hepatic Inflammation in Hepatitis A Virus-Infected Ifnar1/-/- Mice [Pathogenesis and Immunity]
10 May 2021
Iminosugar compounds are monosaccharide mimetics with broad but generally weak antiviral activities related to inhibition of enzymes involved in glycobiology. Miglustat (N-butyl-1-deoxynojirimycin), which is approved for the treatment of lipid storage diseases in humans, and UV-4 [N-(9-methoxynonyl)-1-deoxynojirimycin] inhibit the replication of hepatitis A virus (HAV) in cell culture (50% Deletion of the SARS-CoV-2 Spike Cytoplasmic Tail Increases Infectivity in Pseudovirus Neutralization Assays [Vaccines and Antiviral Agents]
10 May 2021
Pseudotyped viruses are valuable tools for studying virulent or lethal viral pathogens that need to be handled in biosafety level 3 (BSL3) or higher facilities. With the explosive spread of the coronavirus disease 2019 (COVID-19) pandemic, the establishment of a BSL2 adapted severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) pseudovirus neutralization assay is needed to facilitate the Porcine Sapovirus-Induced Tight Junction Dissociation via Activation of the RhoA/ROCK/MLC Signaling Pathway [Virus-Cell Interactions]
10 May 2021
Tight junctions (TJs) are a major barrier and also an important portal of entry for different pathogens. Porcine sapovirus (PSaV) induces early disruption of the TJ integrity of polarized LLC-PK1 cells, allowing it to bind to the buried occludin coreceptors hidden beneath the TJs on the basolateral surface New SHIVs and Improved Design Strategy for Modeling HIV-1 Transmission, Immunopathogenesis, Prevention, and Cure [Pathogenesis and Immunity]
10 May 2021
Previously, we showed that substitution of HIV-1 envelope (Env) residue 375-Ser by bulky aromatic residues enhances binding to rhesus CD4 and enables primary HIV-1 Envs to support efficient replication as simian-human immunodeficiency virus (SHIV) chimeras in rhesus macaques (RMs)
CX3CR1 Engagement by Respiratory Syncytial Virus Leads to Induction of Nucleolin and Dysregulation of Cilium-Related Genes [Virus-Cell Interactions]

Respiratory syncytial virus (RSV) contains a conserved CX3C motif on the ectodomain of the G protein. The motif has been indicated as facilitating attachment of the virus to the host, initiating infection via the human CX3CR1 receptor. The natural CX3CR1 ligand, CX3CL1, has been shown to induce signaling pathways resulting in transcriptional changes in the host cells.

Membrane Topology of Pestiviral Nonstructural Protein 2 and Determination of the Minimal Autoprotease Domain [Genome Replication and Regulation of Viral Gene Expression]

Pestiviruses like bovine viral diarrhea virus (BVDV) belong to the family Flaviviridae. A distinctive feature of the Flaviviridae is the importance of nonstructural (NS) proteins for RNA genome replication and virus morphogenesis. For pestiviruses, the NS2 protease-mediated release of NS3 is essential for RNA replication, whereas uncleaved NS2-3 is indispensable for producing viral progeny.

Epigenetic Reprogramming of Host and Viral Genes by Human Cytomegalovirus Infection in Kasumi-3 Myeloid Progenitor Cells at Early Times Postinfection [Virus-Cell Interactions]

Human cytomegalovirus (HCMV) establishes latency in myeloid cells. Using the Kasumi-3 latency model, we previously showed that lytic gene expression is activated prior to the establishment of latency in these cells. The early events in infection may have a critical role in shaping the establishment of latency.

Ilaprazole and Other Novel Prazole-Based Compounds That Bind Tsg101 Inhibit Viral Budding of Herpes Simplex Virus 1 and 2 and Human Immunodeficiency Virus from Cells [Vaccines and Antiviral Agents]

In many enveloped virus families, including human immunodeficiency virus (HIV) and herpes simplex virus (HSV), a crucial, yet unexploited, step in the viral life cycle is the release of particles from the infected cell membranes.

Cryo-electron Microscopy Structure of S-Trimer, a Subunit Vaccine Candidate for COVID-19 [Vaccines and Antiviral Agents]

Within a year after its emergence, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has infected over 100 million people worldwide, with a death toll over 2 million. Vaccination remains the best hope to ultimately put this pandemic to an end. In this study, using Trimer-Tag technology, we produced both wild-type (WT) and furin site mutant (MT) S-Trimers for COVID-19 vaccine studies.

An Update on Gender Parity Trends for Invited Speakers at Four Prominent Virology Conference Series [Commentary]

Historically, men rather than women have been selected for invited speaking positions at the four prominent virology conference series we have followed since the 1980s. However, the low ratio of female representation in most earlier years (20% in 1982 to 2010) has shown encouraging improvement (37% in 2011 to 2017), particularly over the last few years (48% in 2018 to 2020).

Link between Interleukin-23 and Anti-CD4 Autoantibody Production in Antiretroviral-Treated HIV-Infected Individuals [Pathogenesis and Immunity]
Potential mechanisms of poor CD4+ T cell reconstitution after viral suppression with antiretroviral therapy (ART) in HIV disease have been extensively investigated. We recently discovered that anti-CD4 autoantibody plays a role in impaired CD4+ T cell recovery from ART in HIV-infected individuals with viral suppression, which accounts for a mechanism specific for CD4+ T cell depletion.

The Multidrug Efflux System AcrABZ-ToIC Is Essential for Infection of Salmonella Typhimurium by the Flagellum-Dependent Bacteriophage Chi [Virus-Cell Interactions]

Host Serine Proteases TMPRSS2 and TMPRSS11D Mediate Proteolytic Activation and Trypsin-Independent Infection in Group A Rotaviruses [Virus-Cell Interactions]

Thiopurines Activate an Antiviral Unfolded Protein Response That Blocks Influenza A Virus Glycoprotein Accumulation [Vaccines and Antiviral Agents]

Reassortment with Dominant Chicken H9N2 Influenza Virus Contributed to the Fifth H7N9 Virus Human Epidemic [Genetic Diversity and Evolution]

Human Papillomavirus Infection Requires the CCT Chaperonin Complex [Virus-Cell Interactions]

Virion Structure and In Vitro Genome Release Mechanism of Dicistrovirus Kashmir Bee Virus [Structure and Assembly]

Infections with Kashmir bee virus (KBV) are lethal for honeybees and have been associated with colony collapse disorder. KBV and closely related viruses contribute to the ongoing decline in the number of honeybee colonies in North America, Europe, Australia, and other parts of the world. Despite the economic and ecological impact of KBV, its structure and infection process remain unknown.
BRD4S Interacts with Viral E2 Protein To Limit Human Papillomavirus Late Transcription [Genome Replication and Regulation of Viral Gene Expression]

The E2 protein encoded by human papillomaviruses (HPV) is a sequence-specific DNA-binding protein that recruits viral and cellular proteins. Bromodomain-containing protein 4 (BRD4) is a highly conserved interactor for E2 proteins that has been linked to E2's functions as transcription modulator, activator of viral replication, and segregation factor for viral genomes.

Susceptibility of White-Tailed Deer (Odocoileus virginianus) to SARS-CoV-2 [Pathogenesis and Immunity]

The origin of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the virus causing the global coronavirus disease 2019 (COVID-19) pandemic, remains a mystery. Current evidence suggests a likely spillover into humans from an animal reservoir.

Coronavirus-Specific Antibody Cross Reactivity in Rhesus Macaques following SARS-CoV-2 Vaccination and Infection [Vaccines and Antiviral Agents]

Vaccines are being rapidly developed with the goal of ending the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) pandemic. However, the extent to which SARS-CoV-2 vaccination induces serum responses that cross-react with other coronaviruses remains poorly studied.

Interferon Inducer IFI35 Regulates RIG-I-Mediated Innate Antiviral Response through Mutual Antagonism with Influenza Virus Protein NS1 [Virus-Cell Interactions]

Interferon-stimulated genes (ISGs) create multiple lines of defense against viral infection. Here, we show that interferon-induced protein 35 (IFI35) inhibits swine (H3N2) influenza virus replication by directly interacting with the viral protein NS1. IFI35 binds more preferentially to the effector domain of NS1 (amino acids 128 to 207 [128-207aa]) than to the viral RNA sensor RIG-I.

KDM2B Overexpression Facilitates Lytic De Novo Kaposi's Sarcoma-Associated Herpesvirus Infection by Inducing AP-1 Activity through Interaction with the SCF E3 Ubiquitin Ligase Complex [Genome Replication and Regulation of Viral Gene Expression]

It is still largely unknown what host factors are involved in controlling the expression of the lytic viral gene RTA during primary Kaposi's sarcoma-associated herpesvirus (KSHV) infection, which determines if KSHV establishes latent or lytic infection.

Cohesin Subunit Rad21 Binds to the Herpes Simplex Virus 1 Genome near CTCF Insulator Sites during Latency In Vivo [Genome Replication and Regulation of Viral Gene Expression]

Herpes simplex virus 1 (HSV-1) is a human pathogen that can establish a lifelong infection in the host. During latency, HSV-1 genomes are chromatinized and are abundantly associated with histones in sensory neurons, yet the mechanisms that govern the latent-lytic transition remain unclear.

Articles of Significant Interest in This Issue [Spotlight]

The PRRA Insert at the S1/S2 Site Modulates Cellular Tropism of SARS-CoV-2 and ACE2 Usage by the Closely Related Bat RaTG13 [Virus-Cell Interactions]
Biochemical and structural analyses suggest that severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) efficiently infects humans, and the presence of four residues (PRRA) at the S1/S2 site within the spike (S) protein may lead to unexpected tissue or host tropism. Here, we report that SARS-CoV-2 efficiently utilized angiotensin-converting enzyme 2 (ACE2) of 9 species to infect 293T cells.

**A Vulnerable, Membrane-Proximal Site in Human Respiratory Syncytial Virus F Revealed by a Prefusion-Specific Single-Domain Antibody**

**[Vaccines and Antiviral Agents]**

10 May 2021

Human respiratory syncytial virus (RSV) is a major cause of lower respiratory tract disease, especially in young children and the elderly. The fusion protein (F) exists in a pre- and postfusion conformation and is the main target of RSV-neutralizing antibodies. Highly potent RSV-neutralizing antibodies typically bind sites that are unique to the prefusion conformation of F.

**Defining Stable Reference Genes in HIV Latency Reversal Experiments**

**[Vaccines and Antiviral Agents]**

10 May 2021

Quantification of cell-associated HIV RNA (ca-RNA) is one of the most important and commonly used methods to evaluate the performance of latency-reversing agents (LRAs). Copies of HIV RNA measured by quantitative PCR (qPCR) are often normalized to the input RNA or cell number.

**Valosin-Containing Protein/p97 Plays Critical Roles in the Japanese Encephalitis Virus Life Cycle**

**[Virus-Cell Interactions]**

10 May 2021

Host factors provide critical support for every aspect of the virus life cycle. We recently identified the valosin-containing protein (VCP)/p97, an abundant cellular ATPase with diverse cellular functions, as a host factor important for Japanese encephalitis virus (JEV) replication.

**Cell Type-Specific Biogenesis of Novel Vesicles Containing Viral Products in Human Cytomegalovirus Infection**

**[Virus-Cell Interactions]**

10 May 2021

Human cytomegalovirus (HCMV), while highly restricted for the human species, infects a diverse array of cell types in the host. Patterns of infection are dictated by the cell type infected, but cell type-specific factors and how they impact tropism for specific cell types is poorly understood.

**Trypsin-Enhanced Infection with Porcine Epidemic Diarrhea Virus Is Determined by the S2 Subunit of the Spike Glycoprotein**

**[Virus-Cell Interactions]**

10 May 2021

Porcine epidemic diarrhea virus (PEDV) is an enteric pathogen of importance to the swine industry, causing high mortality in neonatal piglets. Efficient PEDV infection usually relies on the presence of trypsin, yet the mechanism of trypsin dependency is ambiguous.

**SARS-CoV-2 Rapidly Adapt in Aged BALB/c Mice and Induces Typical Pneumonia**

**[Pathogenesis and Immunity]**

10 May 2021

Age is a risk factor for coronavirus disease 2019 (COVID-19)-associated morbidity and mortality in humans; hence, in this study, we compared the course of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection in young and aged BALB/c mice.

**Evaluation of HIV-1 Latency Reversal and Antibody-Dependent Viral Clearance by Quantification of Singly Spliced HIV-1 vpu/env mRNA**

**[Pathogenesis and Immunity]**

10 May 2021

The latent reservoir of HIV-1 is a major barrier for viral eradication. Potent HIV-1 broadly neutralizing antibodies (bNabs) have been used to prevent and treat HIV-1 infections in animal models and clinical trials. Combination of bNabs and latency-reversing agents (LRAs) is considered a promising approach for HIV-1 eradication.
Quantitative Approach To Assess Influenza A Virus Fitness and Transmission in Guinea Pigs [Pathogenesis and Immunity]
10 May 2021
Efforts to estimate the risk posed by potentially pandemic influenza A viruses (IAVs) and to understand the mechanisms governing interspecies transmission have been hampered by a lack of animal models that yield relevant and statistically robust measures of viral fitness.

The Furin-S2' Site in Avian Coronavirus Plays a Key Role in Central Nervous System Damage Progression [Pathogenesis and Immunity]
10 May 2021
The furin cleavage site plays an important role in virus pathogenicity. The spike protein of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) harbors a furin cleavage site insertion, in contrast to SARS-CoV, which may be related to its stronger communicability.

Journal of Virology: Articles Published Ahead of Print
Dynein light chain Dynlrdb2 is essential for Murine leukemia virus traffic and nuclear entry. [Virus-Cell Interactions]
12 May 2021
Murine leukemia virus (MLV) requires the infected cell to divide to access the nucleus to integrate into the host genome. It has been determined that MLV uses the microtubule and actin network to reach the nucleus at the early stages of infection. Several studies have shown that viruses use the dynein motor protein associated with microtubules for their displacement.

Inhibition of Antiviral Innate Immunity by Foot-and-Mouth Disease Virus Lpro through Interaction with N-terminal Domain of Swine RNase L [Pathogenesis and Immunity]
12 May 2021
Foot-and-mouth disease virus (FMDV) is the pathogen of foot-and-mouth disease (FMD), which is a highly contagious disease in cloven-hoofed animals. To survive in the host, FMDV has evolved multiple strategies to antagonize host innate immune responses.

MafF is an antiviral host factor that suppresses transcription from Hepatitis B Virus core promoter [Virus-Cell Interactions]
12 May 2021
Hepatitis B Virus (HBV) is a stealth virus that exhibits only minimal induction of the interferon system that is required for both innate and adaptive immune responses. However, 90% of acutely infected adults can clear the virus, suggesting the presence of additional mechanisms that facilitate viral clearance.

Endoplasmic reticulum-associated degradation controls virus protein homeostasis that is required for the flavivirus propagation [Virus-Cell Interactions]
12 May 2021
Many positive-stranded RNA viruses encode polyproteins and viral proteins are generated by processing the polyproteins. This system produces an equal amount of each viral protein, though their required amounts are different.

Differential inhibition of HIV replication by the 12 interferon-{$\alpha$} subtypes [Pathogenesis and Immunity]
12 May 2021
Type-I interferons (IFNs) are a family of cytokines that represent a first line of defense against virus infections. The 12 different IFN-{$\alpha$} subtypes share a common receptor on target cells and trigger similar signaling cascades.
Selective BCL-XL Antagonists Eliminate Infected Cells from a Primary Cell Model of HIV Latency but not from Ex Vivo Reservoirs [Virus-Cell Interactions]

HIV persists, despite immune responses and antiretroviral therapy, in viral reservoirs that seed rebound viremia if therapy is interrupted. Previously, we showed that the BCL-2 protein contributes to HIV persistence by conferring a survival advantage to reservoir-harboring cells.

Host-virus chimeric events in SARS-CoV2 infected cells are infrequent and artifactual [Virus-Cell Interactions]

Pathogenic mechanisms underlying severe SARS-CoV2 infection remain largely unelucidated. High throughput sequencing technologies that capture genome and transcriptome information are key approaches to gain detailed mechanistic insights from infected cells. These techniques readily detect both pathogen and host-derived sequences, providing a means of studying host-pathogen interactions.

Let it go: HIV-1 cis-acting repressive sequences [Minireviews]

After human immunodeficiency virus type 1 (HIV-1) was identified in the early 1980s, intensive work began to understand the molecular basis of HIV-1 gene expression. Subgenomic HIV-1 RNA regions, spread throughout the viral genome, were described to have a negative impact on the nuclear export of some viral transcripts.

Mechanism through which retrocyclin targets flavivirus multiplication [Vaccines and Antiviral Agents]

Currently, there are no approved drugs for the treatment of flavivirus infection. Accordingly, we tested the inhibitory effects of the novel defensin retrocyclin-101 (RC-101) against flavivirus infection, and investigated the mechanism underlying the potential inhibitory effects. First, RC-101 robustly inhibited both Japanese encephalitis virus (JEV) and Zika virus (ZIKV) infections.

Innate antiviral cytokine response to swine influenza virus by swine respiratory epithelial cells [Virus-Cell Interactions]

Swine influenza virus (SIV) can cause respiratory illness in swine. Swine contribute to influenza virus reassortment as avian, human, and/or SIV viruses can infect swine, reassort, and new viruses can emerge. Thus, it is important to determine the host antiviral responses that affect SIV replication.

The 5-HT3 receptor affects rotavirus-induced motility [Pathogenesis and Immunity]

Rotavirus infection is highly prevalent in children, and the most severe effects are diarrhea and vomiting. It is well accepted that the enteric nervous system (ENS) is activated and plays an important role, but knowledge of how rotavirus activates nerves within ENS and to the vomiting center is lacking.

A derivative of the D5 monoclonal antibody that targets the gp41 N-heptad repeat of HIV-1 with broad tier-2 neutralizing activity [Vaccines and Antiviral Agents]

HIV-1 infection is initiated by the viral glycoprotein Env, which, after interaction with cellular coreceptors, adopts a transient conformation known as the pre-hairpin intermediate (PHI). The N-heptad repeat (NHR) is a highly conserved region of gp41 exposed in the PHI; it is the target of the FDA-approved drug enfuvirtide and of neutralizing monoclonal antibodies (mAbs).
The CD8+ T Cell Noncytotoxic Antiviral Responses [Review]

12 May 2021

The CD8+ T cell noncytotoxic antiviral response (CNAR) was discovered during studies of asymptomatic HIV-infected subjects more than 30 years ago. In contrast to CD8+ T cell cytotoxic lymphocyte (CTL) activity, CNAR suppresses HIV replication without target cell killing.

Endogenous and Borrowed Proteolytic Activity in the Borrelia [Review]

12 May 2021

The Borrelia spp. are tick-borne pathogenic spirochetes that include the agents of Lyme disease and relapsing fever. As part of their life cycle, the spirochetes traffic between the tick vector and the vertebrate host, which requires significant physiological changes and remodeling of their outer membranes and proteome.
Diagnostic Performance of an Antigen Test with RT-PCR for the Detection of SARS-CoV-2 in a Hospital Setting - Los Angeles County, California, June-August 2020
13 May 2021
This report describes the performance of the Quidel rapid antigen SARS-CoV-2 test in a hospital setting.

QuickStats: Percentage of Adults Aged ≥50 Years with Osteoporosis, by Race and Hispanic Origin - United States, 2017-2018
13 May 2021
This report describes the percentage of adults aged ≥50 years with Osteoporosis.

EARLY RELEASE: Demographic and Social Factors Associated with COVID-19 Vaccination Initiation Among Adults Aged ≥65 Years - United States, December 14, 2020-April 10, 2021
11 May 2021
After the first 3.5 months of the U.S. COVID-19 vaccination program, 79.1% of adults aged ≥65 years had received ≥1 dose, with higher vaccination initiation among men. Counties with lower vaccination initiation rates had higher percentages of older adults with social vulnerabilities.

Nature Reviews Microbiology - Current Issue
Bacteria on the hunt
13 May 2021
Nature Reviews Microbiology, Published online: 13 May 2021; doi:10.1038/s41579-021-00576-x This study analysed environmental growth rates of bacterial predators to study their role in microbial food webs.

Extreme dimensions — how big (or small) can tailed phages be?
12 May 2021
Nature Reviews Microbiology, Published online: 12 May 2021; doi:10.1038/s41579-021-00574-z This month's Genome Watch highlights the search for unusually large (or small) tailed phages driven by metagenomics.

The rumen microbiome: balancing food security and environmental impacts
12 May 2021
Nature Reviews Microbiology, Published online: 12 May 2021; doi:10.1038/s41579-021-00543-6 In this Review, Mizrahi and colleagues describe the composition, ecology and metabolism of the rumen microbiome, and the impact on host physiology and the environment. They also discuss the most pertinent methane mitigation strategies that emerged to balance food security and environmental impact.

New England Journal of Medicine - Current Issue
Covid-19 Vaccine Acceptance in California State Prisons
12 May 2021
New England Journal of Medicine, Ahead of Print.

More on SARS-CoV-2 Infection after Vaccination in Health Care Workers
12 May 2021
New England Journal of Medicine, Ahead of Print.

The Covid-19 Infodemic — Applying the Epidemiologic Model to Counter Misinformation
12 May 2021
Scandinavian Journal of Infectious Diseases: Table of Contents

Covid-19 antigen testing: better than we know? A test accuracy study
14 May 2021

Remdesivir for coronavirus disease 2019 (COVID-19): a systematic review with meta-analysis and trial sequential analysis of randomized controlled trials
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Post-outbreak serological screening for SARS-CoV-2 infection in healthcare workers at a Swedish University Hospital
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Clinical characteristics and evaluation of the incidence of cryptococcosis in Finland 2004–2018
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Surveillance: a prerequisite for effective antimicrobial stewardship
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Antibiotic resistance among major pathogens compared to hospital treatment guidelines and antibiotic use in Nordic hospitals 2010–2018
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Equal effect of vancomycin lock with or without heparin in treatment of central venous catheter related blood stream infections – an observational study in palliative home care
08 May 2021

Characteristics of patients discharged and readmitted after COVID-19 hospitalisation within a large integrated health system in the United States
08 May 2021

Infant botulism: an underestimated threat
08 May 2021

CONCLUSIONS: Invasive listeriosis in young infants in the UK and Ireland is rare and presents early in the neonatal period. National guidelines that recommend the use of

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Listeria infection in young infants: results from a national surveillance study in the UK and Ireland
14 May 2021

CONCLUSIONS: Invasive listeriosis in young infants in the UK and Ireland is rare and presents early in the neonatal period. National guidelines that recommend the use of
amoxicillin as part of empiric regimes for sepsis and meningitis in infants over 1 month of age should be modified.

Applying prospective genomic surveillance to support investigation of hospital-onset COVID-19
13 May 2021
No abstract

Global population structure and genotyping framework for genomic surveillance of the major dysentery pathogen, *Shigella sonnei*
12 May 2021
*Shigella sonnei* is the most common agent of shigellosis in high-income countries, and causes a significant disease burden in low- and middle-income countries. Antimicrobial resistance is increasingly common in all settings. Whole genome sequencing (WGS) is increasingly utilised for *S. sonnei* outbreak investigation and surveillance, but comparison of data between studies and labs is challenging