Bulletin

Microbiology

Articles

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Antibiotic therapy for adults with neurosyphilis.
Buitrago-Garcia D. Cochrane Database of Systematic Reviews 2019;5:CD011399.
[Neurosyphilis is an infection of the central nervous system, caused by Treponema pallidum, a spirochete capable of infecting almost any organ or tissue in the body causing neurological complications due to the infection. This disease is a tertiary manifestation of syphilis. The first-line treatment for neurosyphilis is aqueous crystalline penicillin. However, in cases such as penicillin allergy, other regimes of antibiotic therapy can be used.]

Antimicrobial-impregnated central venous catheters for prevention of neonatal bloodstream infection (PREVAIL): an open-label, parallel-group, pragmatic, randomised controlled trial.
[Central venous catheters (CVCs) impregnated with antimicrobial agents are no better than standard CVCs for avoiding bloodstream infection in pre-term babies.

Researchers reported no evidence of clinical benefit or harm from the antimicrobial-impregnated CVCs.

They noted these antimicrobial-impregnated CVCs are rarely used in the UK and are more expensive than standard alternatives.]

Application of the New Centers for Disease Control and Prevention Surveillance Criteria for Ventilator-Associated Events to a Cohort of PICU Patients Identifies Different Patients Compared With the Previous Definition and Physician Diagnosis.
Ziegler KM. Critical Care Medicine 2019;47(7):e547-e554.
[We sought to compare the performance of the 2008 Centers for Disease Control and Prevention Pediatric criteria for ventilator-associated pneumonia, the 2013 Adult Ventilator-Associated Condition criteria, the new Draft Pediatric Ventilator-Associated Condition criteria, and physician-diagnosed ventilator-associated pneumonia in a cohort of PICU patients.]

Assessment of Antibiotic Treatment of Cellulitis and Erysipelas: A Systematic Review and Meta-analysis.
[In this systematic review of 43 studies that included 5999 participants, no evidence was found to support the superiority of any 1 antibiotic over another and the use of intravenous over oral
antibiotics; short treatment courses (5 days) appear to be as effective as longer treatment courses.]

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**Comparison of SIRS, qSOFA, and NEWS for the early identification of sepsis in the Emergency Department.**
[NEWS was the most accurate scoring system for the detection of all sepsis endpoints. Furthermore, NEWS was more specific with similar sensitivity relative to SIRS, improves with disease severity, and is immediately available as it does not require laboratories. However, scoring NEWS is more involved and may be better suited for automated computation. QSOFA had the lowest sensitivity and is a poor tool for ED sepsis screening.]

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**Does oral care with chlorhexidine reduce ventilator-associated pneumonia in mechanically ventilated adults?**
[Oral colonisation by pathogens contributes to contracting ventilator-associated pneumonia (VAP). The aim of this review was to determine whether the use of the antiseptic chlorhexidine in the intraoral cavity reduced its incidence in the critically ill, mechanically ventilated adult. The findings from this review led to the conclusion that chlorhexidine reduced the occurrence of VAP.]

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**Enteral lactoferrin for the treatment of sepsis and necrotizing enterocolitis in neonates.**
Pammi M. *Cochrane Database of Systematic Reviews* 2019;5:CD007138.
[Neonatal sepsis and necrotizing enterocolitis (NEC) cause significant neonatal mortality and morbidity despite appropriate antibiotic therapy. Enhancing host defense and modulating inflammation by using lactoferrin as an adjunct to antibiotics in the treatment of sepsis, NEC, or both, may improve clinical outcomes.]

**Galactomannan detection in broncho-alveolar lavage fluid for invasive aspergillosis in immunocompromised patients.**
de Heer K. *Cochrane Database of Systematic Reviews* 2019;5:CD012399.
[Invasive aspergillosis (IA) is a life-threatening opportunistic mycosis that occurs in some people with a compromised immune system. The serum galactomannan enzyme-linked immunosorbent assay (ELISA) rapidly gained widespread acceptance as part of the diagnostic work-up of a patient suspected of Invasive aspergillosis (IA). Due to its non-invasive nature, it can be used as a routine screening test.]

**Hypertonic Saline in Human Sepsis: A Systematic Review of Randomized Controlled Trials.**
[In patients with sepsis, hypertonic saline reduced the volume of fluid needed to achieve the same hemodynamic targets but did not affect survival.]

*Indoor residual spraying for preventing malaria in communities using insecticide-treated nets.*
Insecticide-treated nets (ITNs) and indoor residual spraying (IRS) are used to control malaria vectors. Both strategies use insecticides to kill mosquitoes that bite and rest indoors. Adding IRS to ITNs may improve control, simply because two interventions may be better than one; it may improve malaria control where ITNs are failing due to pyrethroid resistance; and it may slow the emergence and spread of pyrethroid resistance.

**Influence of commissioned provider type and deprivation score on uptake of the childhood flu immunization.**
Christensen H. *Journal of Public Health* 2019;:fdz060.
[Study finds that school-based programmes achieve the highest and most consistent rates of childhood influenza vaccination. Interventions are still needed to promote more equitable uptake of the childhood influenza vaccine.]
*Freely available online*

**Monotherapy for toenail onychomycosis: a systematic review and network meta-analysis.**
[Review suggests that oral and topical treatments for toenail onychomycosis are safe and effective in producing mycological cure.]
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**Network meta-analysis and pharmacoeconomic evaluation of antibiotics for the treatment of patients infected with complicated skin and soft structure infection and hospital-acquired or ventilator-associated pneumonia.**
Zhang Y. *Antimicrobial Resistance and Infection Control* 2019;8:72.
[In these clinical trials, considering efficacy, safety, and cost-effectiveness, linezolid and tedizolid showed their superiority in MRSA cSSSI; while linezolid might be recommended to treat MRSA pneumonia. Although vancomycin was not cost-effective in pharmacoeconomic evaluation, it is still the first-line treatment for MRSA infection in the clinical practice.]
*Freely available online*

**The efficacy of topical gentamycin application on prophylaxis and treatment of wound infection: A systematic review and meta-analysis.**
[Studies to date show that topical gentamycin application significantly increases the rate of clinical efficacy and decreases the duration of wound healing in patients with local wound infection or infective risk.]

**Reports**
*The following report(s) may be of interest:*

**Antimicrobial central venous catheters do not reduce infections in pre-term babies.**
NIHR Dissemination Centre; 2019.
[https://discover.dc.nihr.ac.uk/content/signal-000782/antimicrobial-central-venous-catheters-for-]
pre-term-babies-do-not-reduce-infections
[NIHR Signal. This NIHR-funded trial compared peripherally inserted CVCs that had been impregnated with a combination of the antifungal miconazole and the broad-spectrum antibiotic rifampicin, against standard non-antimicrobial-impregnated CVCs for preterm babies in intensive care. Rates of bloodstream infections were similar in both groups, and no differences in other clinical outcomes were found.]
Freely available online

Antiretroviral treatment can reduce the risk of HIV transmission between male partners to ‘zero’.
NIHR Dissemination Centre; 2019.
https://discover.dc.nihr.ac.uk/content/signal-000785/antiretroviral-treatment-can-reduce-the-risk-of-hiv-transmission-between-male-partners-to-zero
[NIHR Signal. A study of men from 14 European countries, including the UK, found no cases of transmission of HIV from an HIV-positive partner taking antiretroviral therapy to an HIV-negative partner, as long as the viral load of the HIV-positive partner remained undetectable or very low.]
Freely available online

Ebola outbreak in DRC spreads to Uganda.
BMJ Best Practice; 2019.
https://bestpractice.bmj.com/topics/en-gb/1210
[BMJ Best Practice update. The World Health Organization (WHO) has confirmed that the Ebola outbreak in the Democratic Republic of the Congo (DRC), which started in August 2018, has now spread over the border to Uganda.]
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