**M3 Literature Review**

**Period: 08/06/2024 – 08/07/2024**

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Scientific Highlights:

1. Real-world effectiveness of fecal microbiota transplantation for first or second Clostridioides difficile infection.
2. Economic and Chronologic Optimization of Fecal Donors Screening Process.
3. Understanding host immune responses in Clostridioides difficile infection: Implications for pathogenesis and immunotherapy.
4. Cyclic diguanylate differentially regulates the expression of virulence factors and pathogenesis-related phenotypes in Clostridioides difficile.
5. Current and Ongoing Developments in Targeting Clostridioides difficile Infection and Recurrence.
6. Integrated Safety and Efficacy Analyses of Phase 3 Trials of a Microbiome Therapeutic for Recurrent CDI.
7. Exploring novel microbial metabolites and drugs for inhibiting Clostridioides difficile.
8. Insoluble polysaccharides produced in plant cell cultures protect from Clostridioides difficile colitis.
9. Epidemiology of Clostridioides difficile infection at one hospital 10 years after an outbreak of the epidemic C. difficile strain BI/027: changing strain prevalence, antimicrobial susceptibilities, and patient antibiotic exposures.
10. Overcoming donor variability and risks associated with fecal microbiota transplants through bacteriophage-mediated treatments.
11. Emerging importance of stool preservation methods in OMICS studies with special focus on cancer biology.
12. Occurrence and trends of Clostridioides difficile infections in hospitalized patients: a prospective multicentre cohort study in six German university hospitals, 2016-2020.

Clostridioides difficile/ Clostridium difficile

1. Use of tcdC gene sequencing to prevent misidentification of Clostridioides difficile ribotype 176 and 027.
2. Island biogeography theory provides a plausible explanation for why larger vertebrates and taller humans have more diverse gut microbiomes.
3. Clostridioides difficile infection epidemiology during the COVID-19 pandemic in Greece.
4. Impact of an electronic smart order-set for diagnostic stewardship of Clostridiodes difficile infection (CDI) in a community healthcare system in South Florida.
5. Use of PCR Cycle Threshold and Clinical Interventions to Aid in the Management of Pediatric Clostridioides difficile Patients.
6. miR-155 and miR-21 as Diagnostic and Therapeutic Biomarkers for Ulcerative Colitis: There Is Still a Long Way to Go.
7. Demographic Characteristics and Economic Burden of Clostridioides difficile Infection in Korea: A Nationwide Population-Based Study after Propensity Score Matching.

Fidaxomicin & Clostridium difficile

1. Clostridioides difficile infection as a potential trigger for Familial Mediterranean Fever attacks and fecal transplantation as a rescue.

Clostridioides difficile vaccine

1. Molecular testing for gastrointestinal pathogens in intestinal tissue of infants with necrotizing enterocolitis or spontaneous intestinal perforation.
2. Incidence of public health surveillance-reported Clostridioides difficile infections in thirteen countries worldwide: A narrative review.
3. Pertussis notifications decline in Australia during COVID-19 non-pharmaceutical interventions, 2020-2021.
4. Australian Rotavirus Surveillance Program Annual Report, 2022.
5. Australian vaccine preventable disease epidemiological review series: Hepatitis B, 2000-2019.
6. Epidemiology of respiratory syncytial virus in Central Queensland, Australia.
7. Surveillance of adverse events following immunisation in Australia annual report, 2021.
8. Fasting before Intra-Gastric Dosing with Antigen Improves Intestinal Humoral Responses in Syrian Hamsters.
9. Splenic marginal zone B cells restrict Mycobacterium tuberculosis infection by shaping the cytokine pattern and cell-mediated immunity.

Vancomycin & CDI

1. Phenylthiazoles with potent & optimum selectivity toward Clostridium difficile.
2. Potent and specific antibiotic combination therapy against Clostridioides difficile.

CDI

FMT/ Fecal Microbiota Transplant

1. Clostridioides difficile infection as a potential trigger for Familial Mediterranean Fever attacks and fecal transplantation as a rescue.

Competitors

1. Rumen-protected methionine supplementation during the transition period under artificially induced heat stress: impacts on cow-calf performance.
2. Polylactic acid microplastics cause transgenerational reproductive toxicity associated with activation of insulin and hedgehog ligands in C. elegans.
3. Efficacy and Neural Mechanisms of Mindfulness Meditation Among Adults With Internet Gaming Disorder: A Randomized Clinical Trial.
4. Suitability of frozen cell pellets from cytology specimens for the Amoy 9-in-1 assay in patients with non-small cell lung cancer.
5. Meeting the 24-hour movement guidelines among adult immigrants in Canada.
6. Functional characterization of a cystatin A from the bat Myotis davidii.
7. Effects of P301L-TAU on post-translational modifications of microtubules in human iPSC-derived cortical neurons and TAU transgenic mice.

CDAD

1. Characterization and dynamics of intestinal microbiota in patients with Clostridioides difficile colonization and infection.
2. Association between type of index complication and outcomes after noncardiac surgery.
3. Genomic and phenotypic studies among Clostridioides difficile isolates show a high prevalence of clade 2 and great diversity in clinical isolates from Mexican adults and children with healthcare-associated diarrhea.
4. Improving Risk Prediction of Methicillin-Resistant Staphylococcus aureus Using Machine Learning Methods With Network Features: Retrospective Development Study.
5. The Impact of Gastroesophageal Disease on Clostridium difficile Infection Hospitalization: A Nationwide Analysis From the United States.
6. A sequence invariable region in TcdB2 is required for toxin escape from Clostridioides difficile.
7. Mortality in clostridioides difficile infection among patients hospitalized at the university clinical hospital in Wroclaw, Poland - a 3-year observational study.
8. Impact of colon cancer on outcomes in hospitalized patients with Clostridioides difficile infection: a national inpatient analysis.
9. Clostridioides difficile Toxins: Host Cell Interactions and Their Role in Disease Pathogenesis.
10. Borrelia burgdorferi 0755, a Novel Cytotoxin with Unknown Function in Lyme Disease.
11. Inhibition of Clostridioides difficile toxins TcdA and TcdB by the amiodarone derivative dronedarone.
12. Serological Responses of Guinea Pigs and Heifers to Eight Different BoAHV-1 Vaccine Formulations.
13. Differences in enteric pathogens and intestinal microbiota between diarrheic weaned piglets and healthy penmates.
14. AAV gene therapy for hereditary spastic paraplegia type 50: a phase 1 trial in a single patient.
15. Stress Ulcer Prophylaxis in Mechanically Ventilated Patients With Acute Myocardial Infarction.
16. Antibiotic resistance of enteropathogenic bacteria in a teaching hospital in North Khuzestan during a three-year period.
17. Critical considerations for the management of acute abdomen in transplant patients.
18. Clostridioides difficile superoxide reductase mitigates oxygen sensitivity.

CMC

Guidelines

1. Management of intra-abdominal infections: recommendations by the Italian council for the optimization of antimicrobial use.
2. [Analysis of Clostridioides difficile infection characteristics and risk factors in patients hospitalized for diarrhea in 3 university hospitals in a mid-south city of China].
3. Assessment of the Clinical Utility of the FilmArrayTM Gastrointestinal Panel for Detecting Gastrointestinal Pathogens.
4. Proton-Pump Inhibitors to Prevent Gastrointestinal Bleeding - An Updated Meta-Analysis.
5. Continuous vs Intermittent β-Lactam Antibiotic Infusions in Critically Ill Patients With Sepsis: The BLING III Randomized Clinical Trial.
6. Surveillance of adverse events following immunisation in Australia, COVID-19 vaccines, 2021.

Non-toxigenic C. difficile

1. Contribution of MALDI-TOF mass spectrometry and machine learning including deep learning techniques for the detection of virulence factors of Clostridioides difficile strains.

MGB

Other news of possible interest