**M3 Literature Review**

**Period: 08/06/2025 – 08/07/2025**

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Scientific Highlights:

1. Antimicrobial treatment for 7 versus 14 days in patients with bacteremia: a meta-analysis of randomized controlled trials.
2. Clostridioides difficile evolution in a tertiary German hospital through a retrospective genomic characterization.
3. Fidaxomicin Treatment of Clostridioides difficile Infections and Recurrences in Children and Adolescents: A Retrospective Multicenter Study.
4. Caffeic acid phenethyl ester protects Clostridioides difficile infection by toxin inhibition and microbiota modulation.
5. Evaluating Disparities in Recurrent Clostridioides difficile Infection (CDI) and Fecal Microbiota Transplant (FMT) Treatment using Geospatial and Social Vulnerability Analytic Tools.
6. The ladder of regulatory stringency and balance: an application to the US FDA's regulation of bacterial live therapeutics.
7. Extracellular DNA filaments associated with surface polysaccharide II give Clostridioides difficile biofilm matrix a network-like structure.
8. Receptor-targeted Lactococcus lactis mitigate Clostridioides difficile infection.
9. Efficacy, safety, pharmacokinetics, and associated microbiome changes of ibezapolstat compared with vancomycin in adults with Clostridioides difficile infection: a phase 2b, randomised, double-blind, active-controlled, multicentre study.
10. Fecal Microbiota Transplantation Versus Vancomycin for Primary Clostridioides difficile Infection : A Randomized Controlled Trial.
11. Probiotics Ameliorate Histological Alterations and Prevent Increases in Cytokine and Toxin Levels in Mice Infected with Various Clostridioides difficile Strains.
12. Combination of mitomycin C and low-dose metronidazole synergistically against Clostridioides difficile infection and recurrence prevention.
13. Engrafting gut bacteriophages have potential to modulate microbial metabolism in fecal microbiota transplantation.
14. Efficacy of three chemical disinfectants and steam against Clostridioides difficile endospores on nylon carpet with two different backing systems.
15. Phenotypic analysis of various Clostridioides difficile ribotypes reveals consistency among core processes.
16. Microbiome compositional changes and clonal engraftment in a phase 3 trial of fecal microbiota, live-jslm for recurrent Clostridioides difficile infection.
17. Real-world use of bezlotoxumab to prevent recurrent Clostridioides difficile infections: a single-center experience and meta-analysis.
18. Faecal Microbiota Transplantation as an Adjuvant Treatment for Extraintestinal Disorders: Translating Insights from Human Medicine to Veterinary Practice.
19. Possible Applications of Fecal Microbiota Transplantation in the Pediatric Population: A Systematic Review.
20. Phenotypic and genomic characterization of Clostridioides difficile strains involved in multiple recurrences.
21. Healthcare-Associated Clostridioides difficile Infection: A Hospital-Based Retrospective Study in North Eastern Romania.
22. Leveraging diverse cell death patterns in osteosarcoma patients and identification of the function of FADS2 in osteosarcoma cells.
23. Fecal microbiota transplantation: Current evidence and future directions.
24. The interplay between host immunity and Clostridioides difficile infection.
25. Fecal Microbiota Transplantation (FMT) in Clostridium difficile Infection: A Paradigm Shift in Gastrointestinal Microbiome Modulation.
26. Fecal Microbiome Transplantation for Recurrent CDI: Treatment Efficacy and Safety with Oral Capsules.
27. Uncertain Benefits of Oral Vancomycin for Prevention of Recurrent Clostridioides difficile Infection.
28. Oral Vancomycin for Prevention of Recurrent Clostridioides difficile Infection: A Randomized Clinical Trial.
29. Recurrent Clostridioides difficile Infection (CDI) in Patients Treated With Vancomycin at Johns Hopkins Aramco Healthcare (JHAH), Dhahran, Saudi Arabia.
30. Clinician Management Preferences for Clostridioides difficile Infection in Adults: A 2024 Emerging Infections Network Survey.
31. Fecal microbiota transplantation for prevention of recurrent acute cholangitis. Review of four published cases.
32. Turkish Version of the Cardiac Distress Inventory and Cardiac Distress Inventory Short Form: A Validity and Reliability Study.
33. Lyophilised fecal microbiota transfer in capsules for recurrent Clostridioides difficile infection.
34. A review of engraftment assessments following fecal microbiota transplant.
35. The role of fecal microbiota transplantation in selected neurodegenerative diseases and neurodevelopmental disorders.

Clostridioides difficile/ Clostridium difficile

1. Clostridioides difficile-related reactive arthritis: A scoping review of the literature.
2. Pore formation by the CDTb component of the Clostridioides difficile binary toxin is Ca(2+)-dependent.
3. Tips and tricks for gut microbiota investigation using scanning electron microscopy (SEM): going from sample preparation to imaging and landscape analysis.
4. Methods of a Reproducible Mouse Model of Clostridioides difficile Infection to Investigate Novel Bacterial-Based Therapies.
5. The Overlooked Hazard: Clostridioides difficile in Preterm Infants and Immature Immune Systems-Harnessing Postbiotics for Safer Therapeutic Strategies.
6. Guiding Clostridioides difficile Infection Prevention Efforts in a Hospital Setting With AI.
7. Innovative nucleic acid detection of Clostridioides difficile utilizing the PAM-unconventional, one-step LAMP/CRISPR-Cas12b detection platforms.
8. Risk factors and outcomes of Clostridioides difficile infection in patients with colorectal cancer: critical perspective in management.
9. Clostridioides difficile in Honduras: a genomic and phenotypic characterization of the persistent RT027 and emergent RT002 genotypes.
10. Pseudomembranous Colitis: Unveiling an Infrequent Culprit Beyond Clostridium difficile-A Case Report.
11. Testing suitability of Cary-Blair medium for detection of Clostridioides difficile in stool samples by chemiluminiscence immunoassay.
12. Roles of Gut Microbiota and Associated Metabolites in Clostridioides difficile Infection.
13. Nurses' knowledge of Clostridioides difficile pre and post education: A continuing challenge.
14. Clostridioides difficile toxins alter host metabolic pathway and bile acid homeostasis gene expression in colonic epithelium.
15. Opioid Use and Risk of Clostridioides difficile Infection in Hospitalized Patients: A Systematic Review and Meta-Analysis.
16. Genomic insights into tigecycline non-susceptibility in Clostridioides difficile: the role of the Tet P determinant and efflux mechanisms.

Fidaxomicin & Clostridium difficile

1. Discordance in Clinical Indicators With Sequential Fecal Microbiota Transplantation: A Case of Fulminant Clostridioides Difficile Infection.
2. Donor-centric administration of the stool donor program is vital to its feasibility and patient safety.
3. The Lasting Imprint of Antibiotics on Gut Microbiota: Exploring Long-Term Consequences and Therapeutic Interventions.
4. Perspectives on Fecal Microbiota Transplantation: Uses and Modes of Administration.
5. Current state of microbiota clinical applications in neonatal and pediatric bacterial infections.
6. Clinical management of Clostridioides difficile infection with faecal microbiota transplantation: a real-world cohort study.

Clostridioides difficile vaccine

1. AI4CDI: Introducing a novel machine learning approach to demonstrate feasibility of timely and early identification of at-risk populations for Clostridioides difficile infections.
2. Prevalence of human adenovirus in children with acute gastroenteritis in the New Vaccine Surveillance Network (NVSN) from 2016 to 2019.
3. The effect of antibiotic therapy on clinical outcome in patients hospitalized with moderate COVID-19 disease: a prospective multi-center cohort study.
4. Presence of toxin-producing bacterial pathogens and associated risk factors in neonatal diarrhea of piglets on commercial sow farms in Vietnam.

Vancomycin & CDI

1. A time-series analysis approach to quantify change in antibiotic resistance and antibiotic consumption during COVID-19 Epidemics: a multicenter cross-national ecological study on behalf of QUARANTINE (QUantifying change in Antibiotic Resistance, ANTibiotic use, and INfection control during COVID-19 Epidemics) study project.
2. Progresses on the prevalence and mechanism of vancomycin- resistant bacteria.
3. Impact of Substance Use Disorders on Outcomes of Medically Insured Persons Receiving Multiweek Outpatient Parenteral Antimicrobial Therapy: a Claims-based Cohort Study From 2015 to 2020.
4. Improving fidaxomicin production through ARTP mutagenesis and fermentation optimization in Actinoplanes deccanensis.
5. Hospital unit colonization pressure and nosocomial acquisition of drug susceptible and drug resistant pathogens.

CDI

1. Effect of Clostridium butyricum and antibiotics using simultaneous simple suspension in mice with Clostridioides difficile infection.

FMT/ Fecal Microbiota Transplant

1. Discordance in Clinical Indicators With Sequential Fecal Microbiota Transplantation: A Case of Fulminant Clostridioides Difficile Infection.
2. Donor-centric administration of the stool donor program is vital to its feasibility and patient safety.
3. The Lasting Imprint of Antibiotics on Gut Microbiota: Exploring Long-Term Consequences and Therapeutic Interventions.
4. Perspectives on Fecal Microbiota Transplantation: Uses and Modes of Administration.
5. Current state of microbiota clinical applications in neonatal and pediatric bacterial infections.
6. Clinical management of Clostridioides difficile infection with faecal microbiota transplantation: a real-world cohort study.

Competitors

1. Development and validation of a novel Endoscopic ulcer Activity Score for Evaluation of Crohn's Disease (EASE-CD) using data from two randomised controlled trials.
2. Antibiotic-related dysbiosis of gut microbiota in healthy volunteers: a comparative study of ceftazidime-avibactam, piperacillin-tazobactam, and ceftriaxone.
3. Development of a toxin-selective immunotracer for in vivo detection of Clostridioides difficile infection by immunoPET.
4. Thiol-based redox sensing regulates the yellow pigment and antioxidant accumulation and improves the nutritional quality of wheat grains (Triticum aestivum L.).
5. Photo-aged polylactic acid microplastics causes severe transgenerational decline in reproductive capacity in C. elegans: Insight into activation of DNA damage checkpoints affected by multiple germline histone methyltransferases.

CDAD

1. Emergency Surgery for Gastrointestinal Complications in Patients With Granulomatosis With Polyangiitis and Microscopic Polyangiitis.
2. The Growth, Pathogenesis, and Secondary Metabolism of Fusarium verticillioides Are Epigenetically Modulated by Putative Heterochromatin Protein 1 (FvHP1).
3. The Influence of Injectable Platelet-Rich Fibrin on the Clinical Parameters and the Levels of MMP-8 in the GCF in Non-Surgical Treatment of Periodontitis-Randomized Trial.
4. Cause and effect? A review of the impact of antibiotics on the gut microbiome in patients undergoing hematopoietic stem cell transplantation.
5. The antimicrobial peptide Angie 5 inhibits TcdA and TcdB from Clostridioides difficile.
6. A novel case of aripiprazole and clomipramine-induced toxic megacolon: enough to drive anyone mad.
7. Clinical outcomes of flomoxef versus cefmetazole in hospitalized patients with urinary tract infections: combined retrospective analyses of two real-world databases and in vitro data.
8. Clostridium difficile induced coagulopathy: Implications for microsurgery in the setting of limb salvage.
9. Increased excitation enhances the sound-induced flash illusion by impairing multisensory causal inference in the schizophrenia spectrum.
10. Immune-mediated adverse events in the randomized phase 3 TOPAZ-1 study of durvalumab plus gemcitabine and cisplatin in advanced biliary tract cancer.

CMC

1. Directional Ion Transport Through Nanoarchitected 1D Mesochannels: 2D Polymer Interfacial Engineering for High-Efficiency Capacitive Deionization.

Guidelines

1. Evaluation of probiotics efficiency for the prevention of Clostridioides difficile infection in hospitalized patients: a systematic review and meta-analysis.
2. Facilitation as an effective strategy to reduce excessive antibiotic prophylaxis in Children's hospitals: A stepped-wedge cluster randomized controlled trial.
3. S2k Guideline: Hygienic requirements for patient beds, bed linen, bed accessories and personal protection when handling beds.
4. Elements pollution and ecological risk assessment of coastal sediments along the Nile Delta.
5. "Paint and Sip for Cancer Prevention": A Novel Arts-Based Community Engagement Strategy to Advance Cancer Education and Screening in Underserved Individuals.
6. Target Trial Emulation of Empiric Antibiotics on Clinical Outcomes in Moderately Immunocompromised Patients Hospitalized with Pneumonia.

Non-toxigenic C. difficile

1. Clostridioides difficile's virulence requires efficient holin-mediated toxin secretion.
2. Inhibitory effects of Levilactobacillus brevis IBRC-M10790 on apoptosis and inflammation induced by Clostridioides difficile culture supernatant in vitro.
3. Novel integrative and conjugative elements carrying cfr(B) and cfr(C) linezolid resistance genes in Clostridioides difficile isolates from calves, Italy.
4. Clostridioides (Clostridium) difficile in children and adolescents in the community in Cambodia.

MGB

Other news of possible interest