**Dermal Literature Review**

**Period: 01/07/2024 – 01/08/2024**

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Scientific Highlights:

Burn wound Infections (infections of or preventing infections)

1. Formulation, optimization, and evaluation of non-propellent foam-based formulation for burn wounds treatment.
2. Distribution Patterns and Antibiotic Resistance Profiles of Bacterial Pathogens Among Patients with Wound Infections in the Jiaxing Region from 2021 to 2023.
3. Sodium alginate-based nanofibers loaded with Capparis Sepiaria plant extract for wound healing.
4. Escherichia coli exopolysaccharides disrupt Pseudomonas aeruginosa biofilm and increase its antibiotic susceptibility.
5. Evaluation of White Blood Cell Count, Lymphocyte Percentage, Neutrophil Percentage, and Elevated Temperature as Predictors of Wound Infection in Burn Patients.

Diabetic Foot Ulcers

1. Tibial cortex transverse transport surgery improves wound healing in patients with severe type 2 DFUs by activating a systemic immune response: a cross-sectional study.
2. Development of a cellular assay as a personalized model for testing chronic wound therapeutics.
3. Low-Level Laser Therapy (LLLT) for Diabetic Foot Ulcer in Uncontrolled Diabetes: A Case Report of Improved Wound Healing.
4. Molecular characterization of Pseudomonas aeruginosa from diabetic foot infections in Tunisia.
5. Risk factors for 30-day hospital readmission in patients with diabetic foot.
6. Comprehensive infectious diabetic foot ulcer repair through multiple dressing methods, maggot therapy, and vacuum therapy after amputation: A case report study.
7. Effect of Medical Ozone Therapy in Preventing Compromised Nasal Skin in Revision Rhinoplasty.
8. Surgical debridement and maggot debridement therapy can survive patient with diabetic foot ulcer after foot trauma: A case report.
9. Diabetic Foot Osteomyelitis Undergoing Amputation: Epidemiology and Prognostic Factors for Treatment Failure.
10. Clinic-mycological spectrum of Candida infection in diabetic foot ulcers in a tertiary care hospital.
11. Clinical outcomes in people with diabetes-related foot infections: Analysis from a limb preservation service infection database.
12. Analysis of Circulating miRNA Expression Profiles in Type 2 Diabetes Patients with Diabetic Foot Complications.
13. Effectiveness of a Glyceryl Trinitrate (GTN) Patch in Preventing Amputation, Improving Pain Control and Reducing the Size of Tissue Loss for a Patient With Critical Limb-Threatening Ischaemia (CLTI).
14. Microbiological profile of diabetic foot infections in China and worldwide: a 20-year systematic review.
15. Enhancing diabetic wound healing through anti-bacterial and promoting angiogenesis using dual-functional slow-release microspheres-loaded dermal scaffolds.
16. Assessing the influence of rural residence and economic distress on lower extremity risk stratification among diabetic foot ulcer patients utilizing the Wound, Ischemia, and Foot Infection (WIfI) classification system.
17. The impact of machine learning on the prediction of diabetic foot ulcers - A systematic review.
18. Postbiotic lactobacilli induce cutaneous antimicrobial response and restore the barrier to inhibit the intracellular invasion of Staphylococcus aureus in vitro and ex vivo.
19. Integrated management of diabetic foot ulcers (DFU) using a smartphone - A case report.
20. Engineered exosomes as a prospective therapy for diabetic foot ulcers.
21. Diabetic Foot Osteomyelitis in Patients with and without Peripheral Arterial Disease: Two Different Diseases?
22. Depression as a Prognostic Factor in Lower Extremity Amputation for Diabetic Foot: Insights from a Prospective Study on Wound Healing, Infections, and Early Mortality.
23. (18)F-FDG whole-body PET/CT for the evaluation of suspected native valve infective endocarditis.
24. Trends and prospects in nursing care for diabetic foot: A bibliometric analysis from 2003 to 2023.
25. The antimicrobial susceptibility patterns of diabetic foot ulcers in the South African public healthcare sector.
26. The diabetic sausage toe: Prevalence, presentation and outcomes.
27. What is the agreement between principles and practice of antibiotic stewardship in the management of diabetic foot infection: an in-hospital quality control study.
28. Thermography Research in Diabetic Foot: Insights From a Scopus-Based Bibliometric Study.
29. Impact of the COVID-19 Pandemic on Diabetic Foot Patients: A Shift in the Infectious Agent Profile Toward Nonfermentative Gram-Negative Bacilli.
30. Sodium-Glucose Transporter 2 Inhibitors in Heart Failure: An Overview of Systematic Reviews.
31. Next Steps: Studying Diabetic Foot Infections with Next-Generation Molecular Assays.
32. Exploring Photobiomodulation Therapy and Regenerative Medicine for Diabetic Foot Ulcers: Pathogenesis and Multidisciplinary Treatment Approach.
33. Molecular immunological mechanisms of impaired wound healing in diabetic foot ulcers (DFU), current therapeutic strategies and future directions.
34. Oxidized Cholesterol Derivatives in Fraction B Prepared from Gulf Catfish (Arius bilineatus, Val.) Skin Regulate Calcium Response and Neutrophil Extracellular Traps (NETs) Formation.
35. Bacterial Profile and Antimicrobial Resistance Patterns of Diabetic Foot Infections in a Major Research Hospital of Turkey.
36. Staphylococcus aureus Is the Predominant Pathogen in Hospitalised Patients with Diabetes-Related Foot Infections: An Australian Perspective.
37. Functional Ankle Reconstruction Technique After Total Calcanectomy.
38. Response to 'Promoting diabetic foot wound healing through antibiotic bone cement: Focus on ROCK1 protein expression'.
39. Common pathogens associated with infected diabetic foot ulcers: A retrospective cohort study in a specialized medical center in Jeddah, Saudi Arabia.
40. Evaluating the Efficacy of Topical Phenytoin in the Healing of Neuropathic Diabetic Foot Ulcers: A Comparative Study.
41. Obstructed vein delivery of ceftriaxone via poly(vinyl-pyrrolidone)-iodine-chitosan nanofibers for the management of diabetic foot infections and burn wounds.

Venous Leg Ulcers

Dermal Biofilms

1. Light-activated conjugated polymer nanoparticles to defeat pathogens associated with bovine mastitis.
2. Investigation on biofilm composition and virulence traits of S. pseudintermedius isolated from infected and colonized dogs.
3. Infectious Aspects of Chronic Wounds.
4. Biofilm-producing ability of methicillin-resistant Staphylococcus aureus clinically isolated in China.
5. A microRNA focus on acne.
6. Genotypic and morphological identification of opportunistic microorganisms in triple-syringe tubing from dental units.
7. Unveiling the synergy: Biocompatible alginate-cellulose hydrogel loaded with silk fibroin and zinc ferrite nanoparticles for enhanced cell adhesion, and anti-biofilm activity.
8. Determining the dispersion time in Staphylococcus epidermidis biofilm using physical and molecular approaches.
9. Cold atmospheric plasma therapy for Malassezia folliculitis: Laboratory investigations and a randomized clinical trial.
10. Design and synthesis of unique indole-benzosulfonamide oleanolic acid derivatives as potent antibacterial agents against MRSA.
11. Suppressing the virulence factors of Candida auris with baicalein through multifaceted mechanisms.
12. Transcriptome Analysis of Human Dermal Cells Infected with Candida auris Identified Unique Pathogenesis/Defensive Mechanisms Particularly Ferroptosis.
13. Synthesis and Evaluation of Gelatin-Chitosan Biofilms Incorporating Zinc Oxide Nanoparticles and 5-Fluorouracil for Cancer Treatment.
14. Improving Wound Healing and Infection Control in Long-term Care with Bacterial Fluorescence Imaging.
15. Staphylococcus aureus in Dairy Industry: Enterotoxin Production, Biofilm Formation, and Use of Lactic Acid Bacteria for Its Biocontrol.
16. White light-driven enhanced cerium-doped carbon dots activity to combat multidrug-resistant bacterial infection.
17. Hair removal with a clipper and microbial colonisation prior to knee arthroplasty: a randomised controlled trial.
18. Bacterial biofilm formation on headpieces of Cochlear implants.
19. Evaluation of chlorogenic acid and carnosol for anti-efflux pump and anti-biofilm activities against extensively drug-resistant strains of Staphylococcus aureus and Pseudomonas aeruginosa.
20. Cutibacterium acnes invades submicron osteocyte lacuno-canalicular networks following implant-associated osteomyelitis.
21. A new topical biotechnological phytocomplex for truncal mild-moderate acne restores skin microbiota balance.
22. Plasma Photoinactivation of Bacterial Isolated from Blood Donors Skin: Potential of Security Barrier in Transfusional Therapy.
23. A multifunctional nanoplatform for precision-guided therapeutic intervention in bacterial infection.
24. Efficacy of sodium hypochlorite in overcoming antimicrobial resistance and eradicating biofilms in clinical pathogens from pressure ulcers.
25. Monoolein-Based Wireless Capacitive Sensor for Probing Skin Hydration.
26. Lentisk (Pistacia lentiscus) Oil Nanoemulsions Loaded with Levofloxacin: Phytochemical Profiles and Antibiofilm Activity against Staphylococcus spp.
27. Exploring the Surface: Sampling of Potential Skin Cancer Biomarkers Kynurenine and Tryptophan, Studied on 3D Melanocyte and Melanoma Models.
28. Medical Device-Associated Infections Caused by Biofilm-Forming Microbial Pathogens and Controlling Strategies.
29. Modification and Synergistic Studies of a Novel Frog Antimicrobial Peptide against Pseudomonas aeruginosa Biofilms.
30. Bacterial Biofilm on Tissue Expander and Acellular Dermal Graft After Breast Reconstruction.
31. Screening of the Global Health Priority BoxⓇ reveals potential new disinfectants against the emerging multidrug-resistant pathogen Candida auris.
32. Electroactive composite biofilms integrating Kombucha, Chlorella and synthetic proteinoid Proto-Brains.

Atopic Dermatitis & SA

1. Staphylococcus aureus Proteases: Orchestrators of Skin Inflammation.
2. Sophoricoside ameliorates methicillin-resistant Staphylococcus aureus-induced acute lung injury by inhibiting Bach1/Akt pathway.
3. Genomic analysis and identification of a novel superantigen, SargEY, in Staphylococcus argenteus isolated from atopic dermatitis lesions.
4. Concurrent Presentation of Eczema Herpeticum and Acute Localized Exanthematous Pustulosis in a Patient With Atopic Dermatitis: A Rare Dermatological Convergence.
5. Distinct prophage gene profiles of Staphylococcus aureus strains from atopic dermatitis patients and healthy individuals.
6. Unrecognized Cause of Native Valve Infective Endocarditis Due to Staphylococcus aureus: Laser Hair Removal.

Dermal Fungal

1. Detection of anaerobic and aerobic bacteria from commercial tattoo and permanent makeup inks.
2. Severe Inflammatory and Disseminated Cutaneous Leishmaniasis in a Pregnant Woman: A Case Report from Portoviejo, Ecuador.
3. ERG regulates lymphatic vessel specification genes and its deficiency impairs wound healing-associated lymphangiogenesis.
4. Therapeutic effect of NEO400, perillyl alcohol conjugated to linoleic acid, in a mouse model of UV-induced skin damage.
5. Differences in the Cellular Immune Response during and after Treatment of Sudanese Patients with Post-kala-azar Dermal Leishmaniasis, and Possible Implications for Outcome.
6. Evaluation of Ointments with Daldinia eschscholtzii in Wound Healing in an In Vivo Model.
7. Shh Gene Regulates the Proliferation and Apoptosis of Dermal Papilla Cells to Affect Its Differential Expression in Secondary Hair Follicle Growth Cycle of Cashmere Goats.
8. Langerhans cells regulate immunity in adulthood by regulating postnatal dermal lymphatic development.

Competitors

1. Emergence of novel methicillin resistant Staphylococcus pseudintermedius lineages revealed by whole genome sequencing of isolates from companion animals and humans in Scotland.
2. The Efficacy of an Alcohol-based Nasal Antiseptic versus Mupirocin or Iodophor for Preventing Surgical Site Infections - A Meta-analysis.
3. Diagnosis and management of a herpes nipple infection that resulted in neonatal HSV encephalitis.
4. Staphylococcus aureus screening and preoperative decolonisation with Mupirocin and Chlorhexidine to reduce the risk of surgical site infections in orthopaedic surgery: a pre-post study.
5. Photodynamic activation of phytochemical-antibiotic combinations for combatting Staphylococcus aureus from acute wound infections.
6. Nano-mupirocin as tumor-targeted antibiotic: Physicochemical, immunotoxicological and pharmacokinetic characterization, and effect on gut microbiome.
7. Comparative Antimicrobial Resistance and Prevalence of Methicillin Resistance in Coagulase-Positive Staphylococci from Conventional and Organic Dairy Farms in South Korea.
8. New Insights into Pseudomonas spp.-Produced Antibiotics: Genetic Regulation of Biosynthesis and Implementation in Biotechnology.
9. A randomized controlled trial on hair follicular-derived microtissue for promoting wound healing and alleviating postoperative complications after hair transplantation.

Dressings

1. Unlocking Wearable Microbial Fuel Cells for Advanced Wound Infection Treatment.
2. A carrier-free, injectable, and self-assembling hydrogel based on carvacrol and glycyrrhizin exhibits high antibacterial activity and enhances healing of MRSA-infected wounds.
3. Self-Adapting Biomass Hydrogel Embodied with miRNA Immunoregulation and Long-Term Bacterial Eradiation for Synergistic Chronic Wound Therapy.
4. "All-in-one" self-healing and injectable cationic guar gum hydrogel dressing functionalized by bioactive complexes composed of natural small molecules.
5. Integrating Cellulose Microfibrils and Ellagitannins from Rambutan Peel with Gelatin for Production of Synergistic Biobased Hydrogels.
6. Films based on TEMPO-oxidized chitosan nanoparticles: Obtaining and potential application as wound dressings.
7. A Highly Stable, Multifunctional Janus Dressing for Treating Infected Wounds.
8. Chitosan microflower-embedded gelatin sponges for advanced wound management and hemostatic applications.
9. Injectable vancomycin-loaded silk fibroin/methylcellulose containing calcium phosphate-based in situ thermosensitive hydrogel for local treatment of osteomyelitis: Fabrication, characterization, and in vitro performance evaluation.
10. Highly Compressible, Superabsorbent, and Biocompatible Hybrid Cryogel Constructs Comprising Functionalized Chitosan and St. John's Wort Extract.
11. Bacterial-Infection-Triggered Release of Antibacterial Aldehyde from Triblock Copolyether Hydrogels.
12. Production and performance evaluation of chitosan/collagen/honey nanofibrous membranes for wound dressing applications.
13. Silver nanoparticles loaded triple-layered cellulose-acetate based multifunctional dressing for wound healing.
14. Stimuli-Responsive Release-Active Dressing: A Promising Solution for Eradicating Biofilm-Mediated Wound Infections.
15. Deferiprone and Gallium-Protoporphyrin Chitogel as an antimicrobial treatment: Preclinical studies demonstrating antimicrobial activity for S. aureus infected cutaneous wounds.
16. Vancomycin-Loaded Sol-Gel System for In Situ Coating of Artificial Bone to Prevent Surgical Site Infections.
17. Nanomotor-hydrogel Delivery System with Enhanced Antibacterial Performance for Wound Treatment.
18. Cryogel with Modular and Clickable Building Blocks: Toward the Ultimate Ideal Macroporous Medium for Bacterial Separation.
19. Facile Preparation of Tough, Puncture-Resistant Antibacterial Polyrotaxane Hydrogel.
20. Structural and optical properties of alginate-based antibacterial dressing with calcium phosphate and zinc oxide for biodegradable wound painting applications.
21. Spray-assisted layer-by-layer deposition of quaternized chitosan/tannic acid for the construction of multifunctional bio-based nonwoven dressings.
22. Developing and Screening of a Bacteria-Fighting and Moisture-Controlling Coccinia grandis and Poly(vinyl alcohol) Electrospun Nanofibrous Mat.
23. Thermosensitive Polyhedral Oligomeric Silsesquioxane Hybrid Hydrogel Enhances the Antibacterial Efficiency of Erythromycin in Bacterial Keratitis.
24. Antimicrobial Hydrogels Based on Cationic Curdlan Derivatives for Biomedical Applications.
25. Composite with Silver Nanoparticles and Oregano Essential Oil-Loaded Nanoparticles Intended for Wound Healing.
26. A biguanide chitosan-based hydrogel adhesive accelerates the healing of bacterial-infected wounds.
27. Multifunctional chitosan-based hydrogels loaded with iridium nanoenzymes for skin wound repair.
28. Highly stretchable, self-healing, antibacterial, conductive, and amylopectin-enhanced hydrogels with gallium droplets loading as strain sensors.
29. In Vitro Biological Evaluation of an Alginate-Based Hydrogel Loaded with Rifampicin for Wound Care.
30. Electrospun Gelatin Scaffolds with Incorporated Antibiotics for Skin Wound Healing.
31. Antimicrobial Peptide Screening for Designing Custom Bactericidal Hydrogels.
32. Nanocellulose/Nanoporous Silicon Composite Films as a Drug Delivery System.
33. Mechanical Properties, Drug Release, Biocompatibility, and Antibacterial Activities of Modified Emulsified Gelatin Microsphere Loaded with Gentamicin Composite Calcium Phosphate Bone Cement In Vitro.
34. Antiparasitic Activity of Isolated Fractions from Parthenium incanum Kunth against the Hemoflagellate Protozoan Trypanosoma cruzi.
35. Preparation and characterization of amidated pectin-gelatin-oxidized tannic acid hydrogel films supplemented with in-situ reduced silver nanoparticles for wound-dressing applications.
36. A multifunctional injectable, self-healing, and adhesive hydrogel-based wound dressing stimulated diabetic wound healing with combined reactive oxygen species scavenging, hyperglycemia reducing, and bacteria-killing abilities.
37. Fast fabrication of "all-in-one" injectable hydrogels as antibiotic alternatives for enhanced bacterial inhibition and accelerating wound healing.
38. Self-Crosslinking AuNPs Composite Hydrogel Bolus for Radiophotothermal Therapy.
39. Development and characterization of Staphylococcus aureus-hydrogel-based radiation dosimeter.
40. Chitosan membranes incorporating Aloe vera glycolic extract with joint synthesis of silver nanoparticles for the treatment of skin lesions.
41. Preparation and potential of chitosan-based/Al(2)O(3) green hydrogel composites for the removal of methyl red dye from simulated solution.

Staphylococcal skin infection

1. Updates on postinfectious skin rashes in pediatric dermatology.
2. Prevalence, genetic characteristics, and antimicrobial resistance of staphylococcal isolates from oral cavity and skin surface of healthy individuals in northern Japan.
3. A novel MALT1 variant in an Egyptian patient presenting with exfoliative dermatitis: a case-based review.
4. Mobile genetic element-driven genomic changes in a community-associated methicillin-resistant Staphylococcus aureus clone during its transmission in a regional community outbreak in Japan.
5. A bacterial ghost vaccine against Aeromonas salmonicida infection in turbot (Scophthalmus maximus).
6. Panton-Valentine Leukocidin-Positive Staphylococcus aureus in Family and Pet Cat.
7. Antimicrobial Strategies Proposed for the Treatment of S. pseudintermedius and Other Dermato-Pathogenic Staphylococcus spp. in Companion Animals: A Narrative Review.
8. Glucose transporter 1 is essential for the resolution of methicillin-resistant S. aureus skin and soft tissue infections.

Other news of possible interest