**Dermal Literature Review**

**Period: 01/03/2024 – 01/04/2024**

[Scientific Highlights: 1](#_Toc147397870)

[Burn wound Infections (infections of or preventing infections) 1](#_Toc147397871)

[Diabetic Foot Ulcers 1](#_Toc147397872)

[Venous Leg Ulcers 1](#_Toc147397873)

[Dermal Biofilms 2](#_Toc147397874)

[Atopic Dermatitis & SA 2](#_Toc147397875)

[Dermal Fungal 2](#_Toc147397876)

[Competitors 2](#_Toc147397877)

[Dressings 2](#_Toc147397878)

[Guidelines 2](#_Toc147397879)

[Other news of possible interest 2](#_Toc147397880)

Scientific Highlights:

Burn wound Infections (infections of or preventing infections)

1. Analysis of Blood Cultures from Major Burns Patients in a Tertiary Care Burn Unit in Oman.
2. Risk Factors for Tissue Expander-Related Infections in Pediatric Scar Reconstruction: A 10-Year Retrospective Study.
3. Bactericidal Efficacy of the Combination of Maresin-like Proresolving Mediators and Carbenicillin Action on Biofilm-Forming Burn Trauma Infection-Related Bacteria.
4. Antibacterial, Fatigue-Resistant, and Self-Healing Dressing from Natural-Based Composite Hydrogels for Infected Wound Healing.
5. Chitosan Membranes Stabilized with Varying Acyl Lengths Release Cis-2-Decenoic Acid and Bupivacaine at Controlled Rates and Inhibit Pathogenic Biofilm.

Diabetic Foot Ulcers

1. L-arginine supplementation abrogates hypoxia-induced virulence of Staphylococcus aureus in a murine diabetic pressure wound model.
2. The infected diabetic foot: Analysis of diabetic and non-diabetic foot infections.
3. Osteomyelitis Masquerading as Cellulitis: A Case Report.
4. Assessment of wound healing activity in diabetic mice treated with a novel therapeutic combination of selenium nanoparticles and platelets rich plasma.
5. BedBiopsy: diagnostic performance of bedside ultrasound-guided bone biopsies for the management of diabetic foot infection.
6. Development and optimization of kaempferol loaded ethosomes using Box-Behnken statistical design: In vitro and ex-vivo assessments.
7. The effect of traditional Chinese medicine soaking method on the healing of diabetic foot ulcers: A meta-analysis.
8. Association of Demographic Characteristics and Laboratory Values in Diabetic Foot Infections Leading to Lower-Extremity Amputation.
9. Diabetic Foot Infections and Amputations Are All Too Common-Here's What Could Move the Needle.
10. VGG19 demonstrates the highest accuracy rate in a nine-class wound classification task among various deep learning networks: a pilot study.
11. Hydrogel dressings for diabetic foot ulcer: A systematic review and meta-analysis.
12. Successful topical treatment of human biofilms using multiple antibiotic elution from a collagen-rich hydrogel.
13. Improving Diabetic Wound Healing Outcomes with Topical Growth Factor Therapies: Systematic Review and Network Meta-analysis of Randomised-controlled Trials.
14. Can acupuncture increase microcirculation in peripheral artery disease and diabetic foot syndrome? - a pilot study.
15. The infected diabetic foot: Modulation of traditional biomarkers for osteomyelitis diagnosis in the setting of diabetic foot infection and renal impairment.
16. An Atypical Manifestation of Necrotizing Fasciitis in a Patient With Type II Diabetes.
17. Offloading systems for the treatment of neuropathic foot ulcers in patients with diabetes mellitus: a meta-analysis of randomized controlled trials for the development of the Italian guidelines for the treatment of diabetic foot syndrome.
18. Second Metatarsal Length and Transfer Ulcers After First Metatarsal Amputation in Diabetic Foot Infections.
19. Bibliometric analysis of systematic review and meta-analysis on diabetic foot ulcer.
20. Extended-Spectrum Beta-Lactamase Escherichia coli Diabetic Foot Osteomyelitis Causing Sausage Toe Deformity: Successful Therapy with Ertapenem in the Outpatient Setting.
21. Do Patients With Insulin-Dependent and Non-Insulin-Dependent Diabetes Have Different Risks for Complications After Total Ankle Arthroplasty?
22. The prevalence of gram-negative bacteria with difficult-to-treat resistance and utilization of novel β-lactam antibiotics in the southeastern United States.
23. Risk Factors and Frequency of Foot Ulceration in Patients Receiving Chronic Hemodialysis Treatment.
24. Erratum: Correlation analysis between foot deformity and diabetic foot with radiographic measurement.
25. Effectiveness of a Multidisciplinary Limb Preservation Program in Reducing Regional Hospitalization Rates for Patients With Diabetes-Related Foot Complications.
26. The effect of hyperbaric oxygen therapy on hematological indices and biochemical parameters in patients with diabetic foot.
27. Objective Evidence that Nerve Decompression Surgery Reduces Neuropathic DFU Recurrence Risk to Less Than 5.
28. Podcast on How to Classify Foot Ulcers in People with Diabetes (2023 Update of the IWGDF Guidelines on Classification).
29. Surgical Management of Diabetic Foot Burns is Associated with Poor Outcomes: A Systematic Review and Meta-Analysis.
30. Triple threat: how diabetes results in worsened bacterial infections.
31. Pirogoff amputation is a viable option to maintain ambulation in chronic limb-threatening ischemia with extensive midfoot tissue loss: a report of two cases.
32. Hyperbaric Oxygen Therapy for Diabetic Foot Ulcers Based on Wagner Grading: A Systematic Review and Meta-analysis.
33. Clinical guideline highlights for the hospitalist: Diagnosis and treatment of diabetes-related foot infections.
34. Novel design and development of Centella Asiatica extract - loaded poloxamer/ZnO nanocomposite wound closure material to improve anti-bacterial action and enhanced wound healing efficacy in diabetic foot ulcer.
35. Diagnostic imaging of the diabetic foot: an EANM evidence-based guidance.
36. Deap-seated infection and nonunion following internal fixation for Charcot foot deformity correction. A proportional meta-analysis of level 4 evidence.
37. Role of Indocyanine Green in Diagnosing Diabetic Ulcer: A Case Report.
38. Therapeutic Effect of Silver Nanoparticles in the Management of Diabetic Ulcers: A Systematic Review and Meta-Analysis on RCTs.
39. Effect of platelet-rich plasma on healing of lower extremity diabetic skin ulcers: A meta-analysis.
40. Antibiotic bone cement accelerates diabetic foot wound healing: Elucidating the role of ROCK1 protein expression.
41. The role of diabetic foot treatment in improving left ventricular function: Insights from global longitudinal strain echocardiography.

Venous Leg Ulcers

1. Impact of lymphedema in the management of venous leg ulcers.
2. Molecular characterization of chronic cutaneous wounds reveals subregion- and wound type-specific differential gene expression.
3. Assessment of Wound-Related Pain Experiences of Patients With Chronic Wounds: A Multicenter Cross-Sectional Study in Eastern China.
4. Bacterial Species Involved in Venous Leg Ulcer Infections and Their Sensitivity to Antibiotherapy-An Alarm Signal Regarding the Seriousness of Chronic Venous Insufficiency C6 Stage and Its Need for Prompt Treatment.

Dermal Biofilms

1. Borneol serves as an adjuvant agent to promote the cellular uptake of curcumin for enhancing its photodynamic fungicidal efficacy against Candida albicans.
2. Microbiome modulators for atopic eczema: a systematic review of experimental and investigational therapeutics.
3. Antimicrobial activity of cationic water-soluble porphyrin against multidrug-resistant bacteria in biofilms and canine skin samples.
4. Investigating wound healing potential of sesamol loaded solid lipid nanoparticles: Ex-vivo, in vitro and in-vivo proof of concept.
5. Novel silver nanoparticle-antibiotic combinations as promising antibacterial and anti-biofilm candidates against multiple-antibiotic resistant ESKAPE microorganisms.
6. Microwave disinfection of facial silicone prostheses, Part 1: Color stability.
7. Unveiling the Enigma: Exploring capsular contracture-Unraveling its link with autoimmune disorders and comprehensive examination of predisposing factors.
8. Corrigendum: Exploring the antibacterial and dermatitis-mitigating properties of chicken egg white-synthesized zinc oxide nano whiskers.
9. Characterization of the broad-spectrum antibacterial activity of bacteriocin-like inhibitory substance-producing probiotics isolated from fermented foods.
10. Staphylococcus aureus and biofilms: transmission, threats, and promising strategies in animal husbandry.
11. Effect of Polyphenols on Inflammation Induced by Membrane Vesicles from Staphylococcus aureus.
12. KGRT peptide incorporated hydrogel with antibacterial activity for wound healing by optimizing cellular functions via ERK/eNOS signaling.
13. Risk of infections related to endovascular catheters and cardiac implantable devices in hemodialysis patients.
14. Profiling of Petroselinum sativum (mill.) fuss phytoconstituents and assessment of their biocompatibility, antioxidant, anti-aging, wound healing, and antibacterial activities.
15. An NIR-II-Enhanced Nanozyme to Promote Wound Healing in Methicillin-resistant Staphylococcus Aureus Infections.
16. Excision of Invasive Squamous Cell Carcinoma Complicated by Osteomyelitis and Tobacco Use: A Case Report.
17. Rethinking Hidradenitis Suppurativa Management: Insights into Bacterial Interactions and Treatment Evolution.
18. The Synthetic Peptide LyeTx I mn∆K, Derived from Lycosa erythrognatha Spider Toxin, Is Active against Methicillin-Resistant Staphylococcus aureus (MRSA) In Vitro and In Vivo.
19. New Insights into Cutaneous Asepsis: Synergism between Pfaffia and Rosemary Extracts.
20. Editorial: Combating antimicrobial resistance: peptides and other novel therapeutic interventions to treat ocular, oral and skin infections.

Atopic Dermatitis & SA

1. Staphylococcus aureus: The Bug Behind the Itch in Atopic Dermatitis.
2. The role of Staphylococcus aureus quorum sensing in cutaneous and systemic infections.
3. Atopic Dermatitis Phenotypes Impact Expression of Atopic Diseases Despite Similar Mononuclear Cell Cytokine Responses.
4. Staphylococcal superantigen-like protein 3 triggers murine mast cell adhesion by binding to CD43 and augments mast cell activation.
5. Effect of weekly vitamin D supplementation on the severity of atopic dermatitis and type 2 immunity biomarkers in children: A randomized controlled trial.
6. Chiral phthalimides against penicillin-binding protein 2a of methicillin-resistant Staphylococcus aureus: molecular docking and in vitro analysis.
7. Differentiation of keratinocytes or exposure to type 2 cytokines diminishes S. aureus internalization.
8. Optimization and Validation of an FTIR-based, All-in-one System for Viable MDR Bacteria Detection in Combat-related Wound Infection.
9. Blockade of IL-13 signaling improves skin barrier function and biology in patients with moderate to severe atopic dermatitis.
10. Adding Fuel to the Fire? The Skin Microbiome in Atopic Dermatitis.
11. State of the Art on the Role of Staphylococcus aureus Extracellular Vesicles in the Pathogenesis of Atopic Dermatitis.
12. The Role of Extracellular Vesicles in Atopic Dermatitis.

Dermal Fungal

1. Potential pathogenic microorganisms in rural wastewater treatment process: Succession characteristics, concentration variation, source exploration, and risk assessment.
2. Antiproliferative and Antimigratory Activity of Poly-gallic Acid in Cancer Cell Lines.
3. Monitoring the Long-Term Effectiveness of Miltefosine in Indian Post-Kala-Azar Dermal Leishmaniasis.
4. Isolation of the entomopathogenic fungus Beauveria bassiana from a skin lesion in a wild Nikolsky's viper (Vipera berus nikolskii).
5. Improving stability of human three dimensional skin equivalents using plasma surface treatment.
6. RNA-sequencing of paired tape-strips and skin biopsies in atopic dermatitis reveals key differences.
7. Pleurotus ostreatus polysaccharide-mediated modulation of skin damage caused by microcystin-LR in tadpoles.
8. Pre-emergence herbicides widely used in urban and farmland soils: fate, and potential human and environmental health risks.
9. Yeast-Derived Nucleotides Enhance Fibroblast Migration and Proliferation and Provide Clinical Benefits in Atopic Dermatitis.
10. Clinicopathologic Overlap of Vulvar Psoriasis and Candidiasis.
11. Status of B-Lymphocyte Subsets and Their Homing Markers in Patients With Post-Kala-Azar Dermal Leishmaniasis.
12. Merging Modular Molecular Design with High Throughput Screening of Cell Adhesion on Antimicrobial Supramolecular Biomaterials.
13. Comparative immunohistochemical analysis of inflammatory cytokines in distinct subtypes of Sweet syndrome.
14. Ketotifen directly modifies the fibrotic response of human skin fibroblasts.
15. Optimizing Ideal Thickness of Sections for Epidermis in Intra-Operative Frozen Sections.
16. Acellular Dermal Matrices as an New Alternative for Treatment in Reproductive Organ Static Disorders: A Pilot Study.

Competitors

1. Ephedra alte extracts' GC-MS profiles and antimicrobial activity against multidrug-resistant pathogens (MRSA).
2. Topical antibiotics in the prevention of port-site infection after elective day care laparoscopic cholecystectomy.
3. Nicolau Syndrome Following Glatiramer Injection in a Middle-Aged Woman.
4. Genomic Characterization and Safety Assessment of Bifidobacterium breve BS2- PB3 as Functional Food.
5. Structure and Function of the α-Hydroxylation Bimodule of the Mupirocin Polyketide Synthase.
6. Proteins à la carte: riboproteogenomic exploration of bacterial N-terminal proteoform expression.
7. Genetic Diversification and Resistome of Coagulase-Negative Staphylococci from Nostrils of Healthy Dogs and Dog-Owners in La Rioja, Spain.
8. In vitro activity of selected antimicrobials against methicillin-resistant Staphylococcus pseudintermedius of canine origin in Poland.
9. Clinical Efficacy of Nasal Screening and Methicillin-Resistant Staphylococcusaureus Decolonization in Total Hip Arthroplasty without Chlorhexidine Soap or Vancomycin.

Dressings

1. High-Density Dynamic Bonds Cross-Linked Hydrogel with Tissue Adhesion, Highly Efficient Self-Healing Behavior, and NIR Photothermal Antibacterial Ability as Dressing for Wound Repair.
2. Characterizations of Centrifugal Electrospun Polyvinyl alcohol/Sodium alginate/Tamanu oil/Silver nanoparticles Wound Dressing.
3. Antimicrobial carbon dots/pectin-based hydrogel for promoting healing processes in multidrug-resistant bacteria-infected wounds.
4. Cu-MSNs and ZnO nanoparticles incorporated poly(ethylene glycol) diacrylate/sodium alginate double network hydrogel for simultaneous enhancement of osteogenic differentiation.
5. Improving Biocompatibility of Polyurethanes Apply in Medicine Using Oxygen Plasma and Its Negative Effect on Increased Bacterial Adhesion.
6. A chitosan-based antibacterial hydrogel with injectable and self-healing capabilities.
7. Dandelion-derived vesicles-laden hydrogel dressings capable of neutralizing Staphylococcus aureus exotoxins for the care of invasive wounds.
8. Multifunctional polysaccharide/metal/polyphenol double-crosslinked hydrogel for infected wound.
9. Facile fabrication of a novel, photodetachable salecan-based hydrogel dressing with self-healing, injectable, and antibacterial properties based on metal coordination.
10. Physical characterization, biocompatibility, and antimicrobial activity of polyvinyl alcohol/sodium alginate blend doped with TiO(2) nanoparticles for wound dressing applications.
11. 3D Printing of Alginate/Chitosan-Based Scaffold Empowered by Tyrosol-Loaded Niosome for Wound Healing Applications: In Vitro and In Vivo Performances.
12. Hydrogel Loaded with Peptide-Containing Nanocomplexes: Symphonic Cooperation of Photothermal Antimicrobial Nanoparticles and Prohealing Peptides for the Treatment of Infected Wounds.
13. Fabrication of silicon-based nickel nanoflower-encapsulated gelatin microspheres as an active antimicrobial carrier.
14. Deep Eutectic Solvent Eutectogels for Delivery of Broad-Spectrum Antimicrobials.
15. Sustainable whey proteins-nanostructured zinc oxide-based films for the treatment of chronic wounds: New insights from biopharmaceutical studies.
16. Multifunctional Hydrogel Enhances Inflammatory Control, Antimicrobial Activity, and Oxygenation to Promote Healing in Infectious Wounds.
17. The essential oil of Melaleuca alternifolia incorporated into hydrogel induces antimicrobial and anti-inflammatory effects on infected wounds by Staphylococcus aureus.
18. A novel approach to wound healing: Green synthetic nano-zinc oxide embedded with sodium alginate and polyvinyl alcohol hydrogels for dressings.
19. Strong, tough, high-release, and antibacterial nanocellulose hydrogel for refrigerated chicken preservation.
20. Promoting the healing of diabetic wounds with an antimicrobial gel containing AgNPs with anti-infective and anti-inflammatory properties.
21. MOF/MXene-loaded PVA/chitosan hydrogel with antimicrobial effect and wound healing promotion under electrical stimulation and improved mechanical properties.
22. A dual network cross-linked hydrogel with multifunctional Bletilla striata polysaccharide/gelatin/tea polyphenol for wound healing promotion.
23. Functionalization of sterculia gum for making platform hydrogels via network formation for use in drug delivery.
24. A standardized wound infection model for antimicrobial testing of wound dressings in vitro.
25. Comparison of In Vitro Bacterial Susceptibility to Common and Novel Equine Wound Care Dressings.
26. Influence of chitosan and hydroxyethyl cellulose modifications towards the design of cross-linked double networks hydrogel for diabetic wound healing.
27. Scalable and Versatile Metal Ion Solidificated Alginate Hydrogel for Skin Wound Infection Therapy.
28. Light-sensitive PEG hydrogel with antibacterial performance for pacemaker pocket infection prevention.
29. Antibacterial adhesive based on oxidized tannic acid-chitosan for rapid hemostasis.
30. Wound Dressing Based on Silver Nanoparticle Embedded Wool Keratin Electrospun Nanofibers Deposited on Cotton Fabric: Preparation, Characterization, Antimicrobial Activity, and Cytocompatibility.
31. Ultrasensitive Nanofiber Biosensor: Rapid In Situ Chromatic Detection of Bacteria for Healthcare Innovation.
32. Polysaccharide hydrogel containing silver nanoparticle@catechol microspheres with photothermal, antibacterial and anti-inflammatory activities for infected-wounds repair.
33. GO/AgNW aided sustained release of ciprofloxacin loaded in Starch/PVA nanocomposite mats for wound dressings application.
34. Modified in-vitro AATCC-100 procedure to measure viable bacteria from wound dressings.
35. Study on synergistic mechanism of molybdenum disulfide/sodium carboxymethyl cellulose composite nanofiber mats for photothermal/photodynamic antibacterial treatment.
36. Photopolymerizable and Antibacterial Hydrogels Loaded with Metabolites from Lacticaseibacillus rhamnosus GG for Infected Wound Healing.
37. Development of Poly(vinyl alcohol)-Chitosan Composite Nanofibers for Dual Drug Therapy of Wounds.
38. Antibacterial and self-healing sepiolite-based hybrid hydrogel for hemostasis and wound healing.
39. Nanoarchitectonics of Bimetallic Cu-/Co-Doped Nitrogen-Carbon Nanozyme-Functionalized Hydrogel with NIR-Responsive Phototherapy for Synergistic Mitigation of Drug-Resistant Bacterial Infections.
40. Reduction in Pathogenic Biofilms by the Photoactive Composite of Bacterial Cellulose and Nanochitosan Dots under Blue and Green Light.
41. Variable effects of exposure to ionic silver in wound-associated bacterial pathogens.
42. Vanillin/fungal-derived carboxy methyl chitosan/polyvinyl alcohol hydrogels prepared by freeze-thawing for wound dressing applications.
43. Functional carbon dots-hydrogel complex for selective antibacterial and detection applications.
44. A Biodegradable Janus Sponge for Negative Pressure Wound Therapy.
45. Examining the wound healing potential of curcumin-infused electrospun nanofibers from polyglutamic acid and gum arabic.
46. Enhanced antibacterial activity of porous chitosan-based hydrogels crosslinked with gelatin and metal ions.
47. A nano-composite hyaluronic acid-based hydrogel efficiently antibacterial and scavenges ROS for promoting infected diabetic wound healing.
48. Insect chitosan/pullulan/gallium photo-crosslinking hydrogels with multiple bioactivities promote MRSA-infected wound healing.

Guidelines

1. Staphylococcus aureus: The Bug Behind the Itch in Atopic Dermatitis.
2. The role of Staphylococcus aureus quorum sensing in cutaneous and systemic infections.
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