**Dermal Literature Review**

**Period: 01/01/2024 – 01/02/2024**

[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. Ciprofloxacin enhances the biofilm formation of Staphylococcus aureus via an agrC-dependent mechanism.
2. A novel designed nanofibrous mat based on hydroxypropyl methyl cellulose incorporating mango peel extract for potential use in wound care system.
3. [Properties of gelatin-polyethylene glycol hydrogel loaded with silver nanoparticle Chlorella and its effects on healing of infected full-thickness skin defect wounds in mice].

Diabetic Foot Ulcers

1. [Characteristics of Inflammatory Markers in Diabetic Foot Patients and Their Relationship With Prognosis of Diabetic Foot Ulcers].
2. Effectiveness of continuous home wound care on patients with diabetic foot ulcers.
3. Platelet-rich plasma for the treatment of diabetic foot ulcer: a systematic review.
4. Comorbid status in patients with osteomyelitis is associated with long-term incidence of extremity amputation.
5. Comparative study on the efficacy of PRP gel and UC-MSCs gel as adjuvant therapies in the treatment of DFU wounds.
6. P. aeruginosa interactions with other microbes in biofilms during co-infection.
7. Proportion of toxin and non-toxin virulence factors of Staphylococcus aureus isolates from diabetic foot infection: a systematic review and meta-analysis.
8. Smart Nanofibrous Hydrogel Wound Dressings for Dynamic Infection Diagnosis and Control: Soft but Functionally Rigid.
9. Leg dystrophic calcification as a consequence of chronic diabetic foot infection: a case report.
10. An effective treatment for diabetic foot necrosis with traditional Chinese and Western medicine: a case report.
11. The role of bone scintigraphy in the follow-up of patients with dirty bone margins after conservative surgery for diabetes-related foot osteomyelitis.
12. Absence of Synergism between a Dual-AMP Biogel and Antibiotics Used as Therapeutic Agents for Diabetic Foot Infections.
13. Minimally invasive offloading osteotomy in the treatment of diabetic foot ulcer: Analysis of 25 patients.
14. Advanced wound healing in a patient with transmetatarsal amputation caused by severe diabetic foot infection: A case report.
15. Monitoring negative pressure wound therapy for diabetic foot ulcers using WhatsApp.
16. Independent association of history of diabetic foot with all-cause mortality in patients with type 2 diabetes: the Renal Insufficiency And Cardiovascular Events (RIACE) Italian Multicenter Study.
17. State of the art in the diagnostic evaluation of osteomyelitis: exploring the role of advanced MRI sequences-a narrative review.
18. Inter-observer reliability of the Onychomycosis Severity Index depending on clinical experience: A review of 50 cases.
19. Treatment challenges in the management of difficult-to-treat gram-positive infections: A consensus view apropos therapeutic role of novel anti-MRSA antibiotics, levonadifloxacin (IV) and alalevonadifloxacin (oral).
20. A Systematic Review of the Microbial Landscape of Diabetic Foot Ulcers in Uganda.
21. Nanosilver-Functionalized Hybrid Hydrogels of Carboxymethyl Cellulose/Poly(Vinyl Alcohol) with Antibacterial Activity for Prevention and Therapy of Infections of Diabetic Chronic Wounds.
22. Outpatient Foot-Sparing Surgery Is Safe in Selected Patients with Diabetic Foot Infections.
23. Developing a Practical Tool for Predicting Wound Healing Outcomes of Patients with Diabetic Forefoot Ulcers: Focus on Vasculopathy and Infection.
24. Residential Address Amplifies Health Disparities and Risk of Infection in Individuals With Diabetic Foot Ulcers.
25. Foot Care Prioritization Among Health Care Providers Treating Diabetic Patients in Saudi Arabia: A Survey-Based Study.
26. Adjuvant effect of antimicrobial photodynamic therapy (aPDT) in the treatment of diabetic foot ulcers: A case series.
27. Synthesis and Antimicrobial Activity of 3D Micro-Nanostructured Diatom Biosilica Coated by Epitaxially Growing Ag-AgCl Hybrid Nanoparticles.
28. Ozonated Sunflower Oil (OSO) alleviates inflammatory responses in oxazolone-induced atopic dermatitis (AD)-like mice and LPS- treated RAW 264.7 cells.
29. Bioactive-Glass-Based Materials with Possible Application in Diabetic Wound Healing: A Systematic Review.
30. The Effect of Limb Salvage Efforts in Different Age Groups: Relationships Between Major and Minor Amputations.
31. Cholecalciferol Exhibits no Antibacterial Effect on Staphylococcus aureus and Escherichia coli: an in-vitro Study.
32. Neddylation suppression by a macrophage membrane-coated nanoparticle promotes dual immunomodulatory repair of diabetic wounds.
33. Plantar pressure distribution and altered postural control in multibacillary leprosy patients.
34. Prevalence of S. aureus and/or MRSA in hospitalized patients with diabetic foot and establishment of LAMP methods for rapid detection of the SCCmec gene.
35. Long-Term Impact of COVID-19 related disruption of NHS Elective services on Emergency Major Lower Limb Amputations.
36. A novel diabetic foot ulcer diagnostic model: identification and analysis of genes related to glutamine metabolism and immune infiltration.
37. Dilute Povidone-Iodine Solution Soaking Is Ineffective in Improving Outcomes of Necrotizing Fasciitis Caused by Diabetic Foot.
38. The impact of the COVID-19 pandemic and associated disruptions in health-care provision on clinical outcomes in people with diabetes: a systematic review.
39. Successful wound healing by autologous peripheral blood mononuclear cell therapy in a diabetic patient on hemodialysis with no-option critical limb ischemia: a case report.
40. Prevalence and Factors Associated With Tinea Pedis Among Diabetic Patients in Saudi Arabia: A Descriptive Cross-Sectional Study.
41. Letter: Management of Diabetic Foot Infections: No Pain, No Gain.
42. [Culture and metagenomics as bacterial identification methods in patients with diabetic foot ulcers: a systematic review].
43. An Orthopedic Perspective on Diabetic Foot Attack - A Case Report.

Venous Leg Ulcers

1. Metal accumulation and genetic adaptation of Oryza sativa to Cadmiun and Chromium heavy metal stress: A hydroponic and RAPD analyses.
2. Assessment of multi-biomedical efficiency of Andrographis paniculata shoot extracts through in-vitro analysis and major compound identification.
3. Bioabsorbable Temporizing Matrix (BTM): Not Just for Burns.

Dermal Biofilms

1. Antifungal efficacy of scorpion derived peptide K1K8 against Candida albicans in vitro and in vivo.
2. Biofilms: A developmental niche for vancomycin-intermediate Staphylococcus aureus.
3. Microbial screening of animal skin bags used in traditional cheesemaking.
4. Investigation of tryptophan to kynurenine degradation in response to interferon-γ in melanoma cell lines.
5. A self-assembling peptide inhibits the growth and function of fungi via a wrapping strategy.
6. Biofilm-producing antibiotic-resistant bacteria in Indian patients: a comprehensive review.
7. HOCl-producing electrochemical bandage for treating Pseudomonas aeruginosa-infected murine wounds.
8. Activity of thonningianin A against Candida albicans in vitro and in vivo.
9. Chitosan modified magnetic nanocomposite for biofilm destruction and precise photothermal/photodynamic therapy.
10. Therapeutic Management of Malignant Wounds: An Update.
11. Protecting the Antibacterial Coating of Urinal Catheters for Improving Safety.
12. Oligoribonuclease mediates high adaptability of P. aeruginosa through metabolic conversion.
13. Gene functions of the Ambystoma altamirani skin microbiome vary across space and time but potential antifungal genes are widespread and prevalent.
14. Non-biofilm-forming Staphylococcus epidermidis planktonic cell supernatant induces alterations in osteoblast biological function.
15. Biofilm Producing Methicillin-Resistant Staphylococcus aureus (MRSA) Infections in Humans: Clinical Implications and Management.
16. Chemical profiling and dermatological and anti-aging properties of Syzygium jambos L. (Alston): evidence from molecular docking, molecular dynamics, and in vitro experiments.
17. The Antimicrobial Efficacy of Topically Applied Mafenide Acetate, Citric Acid and Wound Irrigation Solutions Lavanox and Prontosan against Pseudomonas aeruginosa.
18. Extraction, characterization, and therapeutic potential of Omega-3 fatty acids from Belone belone skin.
19. Anti-ultraviolet, antibacterial, and biofilm eradication activities against Cutibacterium acnes of melanins and melanin derivatives from Daedaleopsis tricolor and Fomes fomentarius.
20. Biofilm formation is a risk factor for late and delayed complications of filler injection.
21. Dihydrothiazolo ring-fused 2-pyridone antimicrobial compounds treat Streptococcus pyogenes skin and soft tissue infection.
22. Antibiotics against Pseudomonas aeruginosa on Human Skin Cell Lines: Determination of the Highest Non-Cytotoxic Concentrations with Antibiofilm Capacity for Wound Healing Strategies.
23. Green synthesis of epigallocatechin gallate-ferric complex nanoparticles for photothermal enhanced antibacterial and wound healing.
24. Lactobacillus johnsonii LJO02 (DSM 33828) Cell-Free Supernatant and Vitamin D Improve Wound Healing and Reduce Interleukin-6 Production in Staphylococcus aureus-Infected Human Keratinocytes.
25. Antifungal activity of the repurposed drug disulfiram against Cryptococcus neoformans.
26. Genome analysis deciphered Chryseobacterium indicum is a distinct species associated with freshwater pufferfish.
27. Exfoliation of a Coordination Polymer Based on a Linear π-Conjugated Ligand into an Ultrathin Nanosheet for Glyphosate Sensing.
28. Preventing Bacterial Contamination of Breast Implants Using Infection Mitigation Techniques: An In Vitro Study.
29. Extracellular Vehicles from Commensal Skin Malassezia restricta Inhibit Staphylococcus aureus Proliferation and Biofilm Formation.

Atopic Dermatitis & SA

1. Treg cell dysfunction and cutaneous exposure to S. aureus underlie eczema in DOCK8 deficiency.
2. Interleukin-26 potentiates type 2 skin inflammation in presence of interleukin-1β.
3. Increased S. aureus colonization and reduced antimicrobial peptide expression in erythrodermic psoriasis.
4. Histological and functional characterization of 3D human skin models mimicking the inflammatory skin diseases psoriasis and atopic dermatitis.
5. Antioxidant, Antibacterial Properties of Novel Peptide CP by Enzymatic Hydrolysis of Chromis notata By-Products and Its Efficacy on Atopic Dermatitis.
6. Boesenbergia rotunda and Its Pinostrobin for Atopic Dermatitis: Dual 5-Lipoxygenase and Cyclooxygenase-2 Inhibitor and Its Mechanistic Study through Steady-State Kinetics and Molecular Modeling.
7. An In Vitro Model to Assess Early Immune Markers Following Co-Exposure of Epithelial Cells to Carbon Black (Nano)Particles in the Presence of S. aureus: A Role for Stressed Cells in Toxicological Testing.
8. Dupilumab Alters Both the Bacterial and Fungal Skin Microbiomes of Patients with Atopic Dermatitis.
9. Atopic dermatitis pediatric patients show high rates of nasal and intestinal colonization by methicillin-resistant Staphylococcus aureus and coagulase-negative staphylococci.
10. Slightly acidic electrolyzed water inhibits inflammation induced by membrane vesicles of Staphylococcus aureus.
11. Staphylococcus aureus proteases trigger eosinophil-mediated skin inflammation.

Dermal Fungal

1. Trichoderma harzianum as fungicide and symbiont: is it safe for human and animals?
2. Microneedle array delivery of Yersinia pestis recapitulates bubonic plague.
3. Response to Pham. et. al. - More Data is Needed to Confirm Utility of Screening for Atypical Fibroxanthoma and Pleomorphic Dermal Sarcoma Recurrence.
4. Nanoparticles assisted intra and transdermic delivery of antifungal ointment: an updated review.
5. Critical roles of Rickettsia parkeri outer membrane protein B (OmpB) in the tick host.
6. Novel Arena of Nanocosmetics: Applications and their Remarkable Contribution in the Management of Dermal Disorders, Topical Delivery, Future Trends and Challenges.
7. γδ T cells respond directly and selectively to the skin commensal yeast Malassezia for IL-17-dependent fungal control.
8. Cutaneous cryptococcosis in an adult male of sub-saharan origin.
9. Combination of phytochemicals, including ginsenoside and curcumin, shows a synergistic effect on the recovery of radiation-induced toxicity.
10. Mastocytosis in the skin in dogs: A multicentric case series.
11. Optimized protocol for 3D epithelial cultures supporting human papillomavirus replication.
12. Environmental impact and human health effects of polycyclic aromatic hydrocarbons and remedial strategies: A detailed review.
13. Juniperus oxycedrus L. ssp. Essential Oil Microneedles: A Promising Antimicrobial and Wound Healing Activity.
14. Structural and Functional Strategies in Cenchrus Species to Combat Environmental Extremities Imposed by Multiple Abiotic Stresses.

Competitors

1. Tailoring polyethylene oxide-modified cross-linked chitosan/PVA nanofibrous membranes: Burn dressing scaffold developed for mupirocin release.
2. Eradication of community-onset MRSA carriage: a narrative review.
3. The Hybrid Antibiotic Thiomarinol A Overcomes Intrinsic Resistance in Escherichia coli Using a Privileged Dithiolopyrrolone Moiety.
4. Structural basis for substrate and antibiotic recognition by Helicobacter pylori isoleucyl-tRNA synthetase.
5. Methicillin-Resistant Staphylococcus aureus (MRSA) in a Tertiary Care Hospital in Kuwait: A Molecular and Genetic Analysis.
6. Dissolving microneedle system containing Ag nanoparticle-decorated silk fibroin microspheres and antibiotics for synergistic therapy of bacterial biofilm infection.

Dressings

1. NIR-triggered bacterial cellulose-based wound dressings for multiple synergistic therapy of infected wound.
2. In vitro evaluation of bactericidal effects of fluorescent light energy on Staphylococcus pseudintermedius and S. aureus.
3. ROS-responsive hydrogels with spatiotemporally sequential delivery of antibacterial and anti-inflammatory drugs for the repair of MRSA-infected wounds.
4. In vitro and in vivo studies of Syzygium cumini-loaded electrospun PLGA/PMMA/collagen nanofibers for accelerating topical wound healing.
5. Metal-amplified sonodynamic therapy of Ti-based chitosan-polyvinyl alcohol hybrid hydrogel dressing against subcutaneous Staphylococcus aureus infection.
6. An antibacterial and anti-oxidant hydrogel containing hyperbranched poly-l-lysine and tea polyphenols accelerates healing of infected wound.
7. Self-controllable proteinic antibacterial coating with bacteria-triggered antibiotic release for prevention of periprosthetic infection.
8. Evaluation of antimicrobial photodynamic action of a pluronic and pectin based film loaded with methylene blue against Methicilin resistant Staphylococcus aureus.
9. A sustainable and self-healable silk fibroin nanocomposite with antibacterial and drug eluting properties for 3D printed wound dressings.
10. Drug-free and multifunctional sodium bicarbonate/hyaluronic acid hybrid dressing for synergistic healing of infected wounds.
11. In vitro evaluation of nanocomposites of linseed mucilage and k-carrageenan loaded with Achyrocline satureioides nanoemulsion: a gradual-release candidate of antimicrobials for the treatment of bovine mastitis.
12. Phosvitin-based hydrogels prepared in AmimCl under magnetic field treatment: Structural characteristics, biological functions, and application in skin wound healing.
13. Preparation and evaluation of blend polymer films for wound dressing using vancomycin-loaded polycaprolactone and carboxymethyl cellulose via crosslinking methods: Effect of mechanical strength, antibacterial activity, and cytotoxicity.
14. Functionally multifaceted alginate/curdlan/agarose-based bilayer fibro-porous dressings for addressing full-thickness diabetic wounds.
15. Comparative Analysis of Antibacterial and Wound Healing Activities of Chitosan and Povidone-Iodine-Based Hydrogels.
16. Antimicrobial polyacrylic acid/tannic acid hydrogel wound dressing facilitating full-thickness skin healing.
17. Using halofuginone-silver thermosensitive nanohydrogels with antibacterial and anti-inflammatory properties for healing wounds infected with Staphylococcus aureus.
18. A hydrogen-bonded curdlan-chitosan/polyvinyl alcohol edible dual functional hydrogel bandage against MRSA promotes wound healing.
19. Azadirachta indica (AI) leaf extract coated ZnO-AI nanocore-shell particles for enhanced antibacterial activity against Methicillin-Resistant Staphylococcus aureus (MRSA).
20. Fabrication and investigation of a pentamerous composite based on calix[4]arene functionalized graphene oxide grafted with silk fibroin, cobalt ferrite, and alginate.
21. Anti-adhesion multifunctional poly(lactic-co-glycolic acid)/polydimethylsiloxane wound dressing for bacterial infection monitoring and photodynamic antimicrobial therapy.
22. Zingiber officinale and thymus vulgaris extracts co-loaded polyvinyl alcohol and chitosan electrospun nanofibers for tackling infection and wound healing promotion.
23. Bifunctional Carbosilane Dendrimers for the Design of Multipurpose Hydrogels with Antibacterial Action.
24. Generation of a photothermally responsive antimicrobial, bioadhesive gelatin methacryloyl (GelMA) based hydrogel through 3D printing for infectious wound healing.
25. Photopolymerized multifunctional sodium alginate-based hydrogel for antibacterial and coagulation dressings.
26. Synthesis, characterization, and antibacterial effect of St. John's wort oil loaded chitosan hydrogel.
27. Preparation and Properties of Antibacterial Silk Fibroin Scaffolds.
28. Cationic and amphiphilic peptide-based hydrogels with dual activities as anticancer and antibacterial agents.
29. Berberine-loaded polylactic acid nanofiber scaffold as a drug delivery system: The relationship between chemical characteristics, drug-release behavior, and antibacterial efficiency.
30. Functionalization of Cotton Nonwoven with Cyclodextrin/Lawsone Inclusion Complex Nanofibrous Coating for Antibacterial Wound Dressing.
31. Alginate Gel Encapsulated with Enzybiotics Cocktail Is Effective against Multispecies Biofilms.
32. Antimicrobial Activity of Artemisia dracunculus Oil-Loaded Agarose/Poly(Vinyl Alcohol) Hydrogel for Bio-Applications.
33. Electrospun nylon 6/hyaluronic acid/chitosan bioactive nanofibrous composite as a potential antibacterial wound dressing.
34. Smart Bactericidal Capsules Based on Cationic Luminescent Nanoclusters for Controllable Treatment of Drug-resistant Bacterial Infection.
35. A tough, antibacterial and antioxidant hydrogel dressing accelerates wound healing and suppresses hypertrophic scar formation in infected wounds.
36. Dehydration-Toughing Dual-Solvent Gels with Viscoelastic Transition for Infectious Wound Treatment.
37. Biomimetic Gradient Hydrogels with High Toughness and Antibacterial Properties.
38. Multifunctional Wound Curation Dressing Material FemuFrost─An Antioxidant-Loaded Nanoemulsion Frosted Patch of Poly(vinyl alcohol) and Hyaluronic Acid.
39. Versatile Antibacterial and Antioxidant Bacterial Cellulose@Nanoceria Biotextile: Application in Reusable Antimicrobial Face Masks.
40. MXene-based polysaccharide aerogel with multifunctional enduring antimicrobial effects for infected wound healing.
41. Anti-adhesive and antibacterial chitosan/PEO nanofiber dressings with high breathability for promoting wound healing.
42. A DNA-inspired injectable adhesive hydrogel with dual nitric oxide donors to promote angiogenesis for enhanced wound healing.
43. Unconventional luminescent CS-PEC-based composite hemostasis sponge with antibacterial activity and visual monitoring for wound healing.
44. Injectable hydrogel with antimicrobial and anti-inflammatory properties for postoperative tumor wound care.
45. Effect of Amino Acid Types on the Mechanical and Antimicrobial Properties of Amino Acid-Based Polyionic Liquid Hydrogels.
46. Methyl cellulose/okra mucilage composite films, functionalized with Hypericum perforatum oil and gentamicin, as a potential wound dressing.
47. Gelatin/carboxymethyl chitosan/aloe juice hydrogels with skin-like endurance and quick recovery: Preparation, characterization, and properties.
48. Mussel-inspired "all-in-one" sodium alginate/carboxymethyl chitosan hydrogel patch promotes healing of infected wound.
49. Hydrogel dressings with intrinsic antibiofilm and antioxidative dual functionalities accelerate infected diabetic wound healing.
50. Self-triggered carboxymethyl chitosan hydrogel for the convenient sustained release of ClO(2) gas with environmental stability and long-term antimicrobial effect.

Guidelines

1. Treg cell dysfunction and cutaneous exposure to S. aureus underlie eczema in DOCK8 deficiency.
2. Interleukin-26 potentiates type 2 skin inflammation in presence of interleukin-1β.
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