**Dermal Literature Review**

**Period: 01/12/2023 – 01/01/2024**

[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. URP20 improves corneal injury caused by alkali burns combined with pathogenic bacterial infection in rats.
2. Fabrication of chitosan/fibrin-armored multifunctional silver nanocomposites to improve antibacterial and wound healing activities.
3. GehB Inactivates Lipoproteins to Delay the Healing of Acute Wounds Infected with Staphylococcus aureus.
4. A 10-year retrospective study of methicillin-resistant Staphylococcus aureus from burn wound infection in southeast China from 2013 to 2022.
5. Pseudomonas aeruginosa kills Staphylococcus aureus in a polyphosphate-dependent manner.
6. Pharmacokinetics of Locally Applied Antibiotic Prophylaxis for Implant-Based Breast Reconstruction.
7. The clinical differentiation of blood culture-positive and -negative sepsis in burn patients: a retrospective cohort study.
8. Comparison of Plasma-Polymerized Thin Films Deposited from 2-Methyl-2-oxazoline and 2-Ethyl-2-oxazoline: I Film Properties.

Diabetic Foot Ulcers

1. Clinical value of neutrophil-to-lymphocyte ratio and prognostic nutritional index on prediction of occurrence and development of diabetic foot-induced sepsis.
2. Knowledge, Attitude, and Practice Regarding the Risk of Diabetic Feet Among Diabetic Patients in the Madinah Region, Saudi Arabia.
3. Management of diabetic foot ulcers using topical probiotics in a soybean-based concentrate: a multicentre study.
4. Lipid Profile Paradox: Investigating Improved Lipid Levels in Diabetic Mellitus Patients with Foot Ulcer Infections-A Prospective Descriptive Study.
5. A Review of Phage Therapy for Bone and Joint Infections.
6. Bacteriophage Treatment of Infected Diabetic Foot Ulcers.
7. Enhancement of bactericidal effects of bacteriophage and gentamicin combination regimen against Staphylococcus aureus and Pseudomonas aeruginosa strains in a mice diabetic wound model.
8. Prognostic Value of Wagner Grade and Platelet Level in Diabetics with Infected Foot Ulcers After Antibiotic Therapy.
9. Healing rate comparison of revascularized and non-revascularized diabetic foot ulcers with peripheral arterial disease.
10. Similarities and Differences Between Diabetes-Related and Trauma-Related Calcaneal Osteomyelitis: Comparisons Based on 681 Reported Cases.
11. Multifunctional ADM hydrogel containing endothelial cell-exosomes for diabetic wound healing.
12. Sepsis in the acute phase of Charcot requiring prompt surgical treatment.
13. Early identification of delayed wound healing in complex diabetic foot ulcers treated with a dermal regeneration template: A novel clinical target and its risk factors.
14. Adherence to vascular care guidelines for emergency revascularization of chronic limb-threatening ischemia.
15. Metabolic dysfunction-associated fatty liver disease in the elderly with diabetic foot ulcers: A longitudinal cohort study.
16. Health-related quality of life in people with different diabetes-related foot ulcer health states: a cross-sectional study of healed, non-infected, infected, hospitalised and amputated ulcer states.
17. Cefiderocol-associated brown chromaturia.
18. Validation of spectrophotometric and colorimetric methods to quantify clindamycin in skin tissue: application to in vitro release and ex vivo dermatokinetic studies from separable effervescent microarray patch loaded bacterially sensitive microparticle.
19. Healing Rates and Outcomes Following Closed Transmetatarsal Amputations: A Systematic Review and Random Effects Meta-Analysis of Proportions.
20. Increase in antibiotic resistance in diabetic foot infections among peruvian patients: a single-center cross-sectional study.
21. [Construction and preliminary validation of a risk prediction model for the recurrence of diabetic foot ulcer in diabetic patients].
22. Apoptosis recognition receptors regulate skin tissue repair in mice.
23. Histone deacetylase (HDAC) inhibitors- based drugs are effective to control Mycobacterium tuberculosis infection and promote the sensibility for rifampicin in MDR strain.
24. Associations between specialty care and improved outcomes among patients with diabetic foot ulcers.
25. The needs of patients with diabetes for the prevention and treatment of foot complications in Thailand: A qualitative descriptive study.
26. Isolation and Characterization of New Bacteriophages against Staphylococcal Clinical Isolates from Diabetic Foot Ulcers.
27. State-of-the-Art Features for Early-Stage Detection of Diabetic Foot Ulcers Based on Thermograms.
28. Hard-to-Heal Wound Healing: Superiority of Hydrogel EHO-85 (Containing Olea europaea Leaf Extract) vs. a Standard Hydrogel. A Randomized Controlled Trial.
29. Which biomarkers predict hard-to-heal diabetic foot ulcers? A scoping review.
30. Formulation and characterization of polyvinyl alcohol/chitosan composite nanofiber co-loaded with silver nanoparticle & luliconazole encapsulated poly lactic-co-glycolic acid nanoparticle for treatment of diabetic foot ulcer.
31. The Potential of Sheep or Camel Milk Constituents to Contribute to Novel Dressings for Diabetic Wounds.
32. Wound pH-modulating strategies for diabetic wound healing.
33. Evaluating the Cost-effectiveness of Diabetic Foot Ulcer Management by Wound Care Specialists in Indonesia.
34. Efficacy and safety of itopride SR for upper gastrointestinal symptoms in patients with diabetic gastroparesis: real-world evidence from Pakistan.
35. The Indirect Impact of COVID-19 Pandemic on Lower Extremity Amputations - An Australian Study [Letter].
36. Bullosis diabeticorum in a morbidly obese woman in Haiti.

Venous Leg Ulcers

1. Identification and characterization of major bioactive compounds from Andrographis paniculata (Burm. f.) extracts showed multi-biomedical applications.
2. Hard-to-heal peripheral wounds infected with Corynebacterium striatum: a prospective study.
3. Identification of types of wound bed tissue as a percentage and total wound area by planimetry in neuropathic and venous ulcers.
4. Clinical characteristics of Martorell hypertensive ischaemic leg ulcer.
5. Antimicrobial and biocompatibility nature of methanol extract of Lannea coromandelica bark and edible coating film preparation for fruit preservation.
6. Cost-effectiveness analysis of intra- and perilesional recombinant human epidermal growth factor versus hydrocolloid therapy in venous ulcer treatment in the Colombian context.
7. Development of an explainable artificial intelligence model for Asian vascular wound images.

Dermal Biofilms

1. Whole genome sequence and comparative genomics analysis of multidrug-resistant Staphylococcus xylosus NM36 isolated from a cow with mastitis in Basrah city.
2. Structure-activity relationship of drug conjugated polymeric materials against uropathogenic bacteria colonization under in vitro and in vivo settings.
3. Chitosan-based topical formulation integrated with green-synthesized silver nanoparticles utilizing Camellia sinensis leaf extracts: A promising approach for managing infected wounds.
4. Recent advances in single-cell engineered live biotherapeutic products research for skin repair and disease treatment.
5. A novel approach to expedite wound healing with plasma brush of cold flame.
6. A promising antibiotic candidate, brevinin-1 analogue 5R, against drug-resistant bacteria, with insights into its membrane-targeting mechanism.
7. Utilizing the Photodynamic Properties of Curcumin to Disrupt Biofilms in Cutibacterium acnes: A Promising Approach for Treating Acne.
8. Liposomal formulation of a new antifungal hybrid compound provides protection against Candida auris in the ex vivo skin colonization model.
9. Exploring the antibacterial and dermatitis-mitigating properties of chicken egg white-synthesized zinc oxide nano whiskers.
10. Treatment of wound infections linked to neurosurgical implants.
11. Proguanil and chlorhexidine augment the antibacterial activities of clarithromycin and rifampicin against Acinetobacter baumannii.
12. A machine learning approach to identifying Salmonella stress response genes in isolates from poultry processing.
13. Mechanisms of pathogenicity for the emerging fungus Candida auris.
14. Global characteristics and trends in research on Candida auris.
15. Phloretin Inhibits Quorum Sensing and Biofilm Formation in Serratia marcescens.
16. Comparative Genomic Analysis of Cutibacterium spp. Isolates in Implant-Associated Infections.
17. A-Type Natriuretic Peptide Alters the Impact of Azithromycin on Planktonic Culture and on (Monospecies and Binary) Biofilms of Skin Bacteria Kytococcus schroeteri and Staphylococcus aureus.
18. Hsa\_circ\_0105040 promotes Cutbacterium acnes biofilm induced inflammation via sponge miR-146a in human keratinocyte.
19. Small molecular adjuvants repurpose antibiotics towards Gram-negative bacterial infections and multispecies bacterial biofilms.
20. A surfactant-based dressing can reduce the appearance of Pseudomonas aeruginosa pigments and uncover the dermal extracellular matrix in an ex vivo porcine skin wound model.

Atopic Dermatitis & SA

1. Vernix caseosa reveals mechanistic clues linking maternal obesity to atopic dermatitis pathogenesis.
2. Production of a selective antibacterial fatty acid against Staphylococcus aureus by Bifidobacterium strains.
3. Infective endocarditis associated with atopic dermatitis.

Dermal Fungal

1. Cyanidin-3-O-glucoside and its derivative vitisin A alleviate androgenetic alopecia by exerting anti-androgen effect and inhibiting dermal papilla cell apoptosis.
2. Serratia marcescens causing recurrent superficial skin infections in an immunosuppressed patient.
3. Inhibitory Effects of Latilactobacillus curvatus BYB3 Cell-Free Extract on Human Melanoma B16F10 Cells and Tumorigenic Mice.
4. Exploring the Antibacterial Potential of Semisynthetic Phytocannabinoid: Tetrahydrocannabidiol (THCBD) as a Potential Antibacterial Agent against Sensitive and Resistant Strains of Staphylococcus aureus.
5. A minimally invasive, field-applicable CRISPR/Cas biosensor to aid in the detection of Pseudogymnoascus destructans, the causative fungal agent of white-nose syndrome in bats.
6. Amphotericin B-loaded natural latex dressing for treating Candida albicans wound infections using Galleria mellonella model.
7. Effects of Poly-L-Lactic Acid on Adipogenesis and Collagen Gene Expression in Cultured Adipocytes Irradiated with Ultraviolet B Rays.
8. Association between culture and the preference for, and perceptions of, 11 routes of medicine administration: A survey in 21 countries and regions.
9. Paradoxical dominant negative activity of an immunodeficiency-associated activating PIK3R1 variant.
10. Development and In-Vitro Evaluation of Eugenol-Based Nanostructured Lipid Carriers for Effectual Topical Treatment Against C. albicans.
11. Biological Activity of Fermented Plant Extracts for Potential Dermal Applications.
12. Fish Scale Gelatin Nanofibers with Helichrysum italicum and Lavandula latifolia Essential Oils for Bioactive Wound-Healing Dressings.
13. Evaluation of the Antitumor Activity of Quaternary Ammonium Surfactants.
14. Integrating Fused Deposition Modeling and Melt Electrowriting for Engineering Branched Vasculature.
15. Induction of Programmed Cell Death in Acanthamoeba culbertsoni by the Repurposed Compound Nitroxoline.
16. Cold plasma treatment of tannic acid as a green technology for the fabrication of advanced cross-linkers for bioactive collagen/gelatin hydrogels.
17. VE-cadherin junction dynamics in initial lymphatic vessels promotes lymph node metastasis.
18. UBE2N is essential for maintenance of skin homeostasis and suppression of inflammation.

Competitors

1. ovadExploring alternative strategies for Staphylococcus aureus Nasal decolonization: Insights from Preclinical Studies.
2. Erythromycin, retapamulin, pyridoxine, folic acid, and ivermectin inhibit cytopathic effect, papain-like protease, and M(PRO) enzymes of SARS-CoV-2.
3. Comparison of global decolonization efficacy with mupirocin nasal drop and chlorhexidine mouthwash in acute leukemia patients: randomized clinical trial.
4. Enterotoxigenic and Antimicrobic Susceptibility Profile of Staphylococcus aureus Isolates from Fresh Cheese in Croatia.

Dressings

1. Antibacterial hyaluronic acid hydrogels with enhanced self-healing properties via multiple dynamic bond crosslinking.
2. Photothermal antibacterial MoS(2) composited chitosan hydrogel for infectious wound healing.
3. Copper-Zinc-Doped Bilayer Bioactive Glasses Loaded Hydrogel with Spatiotemporal Immunomodulation Supports MRSA-Infected Wound Healing.
4. Herbal Active Ingredient-Loaded Poly(ω-pentadecalactone-co-δ-valerolactone)/Gelatin Nanofibrous Membranes.
5. Bacterial Cellulose-Based Bandages with Integrated Antibacteria and Electrical Stimulation for Advanced Wound Management.
6. Multi-Enzyme-based Superabsorbent Hydrogel for Self-Enhanced Nir-Ii Photothermal-Catalytic Antibacterial Therapy.
7. Exudate-induced Gelatinizable Nanofiber Membrane with High Exudate Absorption And Super Bactericidal Capacity for Bacteria-Infected Wound Management.
8. Photothermal synergistic nitric oxide controlled release injectable self-healing adhesive hydrogel for biofilm eradication and wound healing.
9. Preparation and Activity of Hemostatic and Antibacterial Dressings with Greige Cotton/Zeolite Formularies Having Silver and Ascorbic Acid Finishes.
10. In vitro and in vivo studies of Dragon's blood plant (D. cinnabari)-loaded electrospun chitosan/PCL nanofibers: Cytotoxicity, antibacterial, and wound healing activities.
11. To Evaluate and Compare the Antimicrobial Efficacy of Various Disinfecting Agents on K-file against Gram-positive and Gram-negative Bacteria of Endodontic Origin: An In Vitro Study.
12. Assessment of antibiotic release and antibacterial efficacy from pendant glutathione hydrogels using ex vivo porcine skin.
13. Preparation of berberine hydrochloride-Ag nanoparticle composite antibacterial dressing based on 3D printing technology.
14. Transparent silk fibroin film-facilitated infected-wound healing through antibacterial, improved fibroblast adhesion and immune modulation.
15. Analysis and comparison of bioactive phytochemical composition and antibacterial property of two Ethiopian indigenous medicinal plants.
16. A photothermally antibacterial Au@Halloysite nanotubes/lignin composite hydrogel for promoting wound healing.
17. A 4d Printed Adhesive, Thermo-Contractile, and Degradable Hydrogel for Diabetic Wound Healing.
18. Silver Nanoparticle-Loaded Titanium-Based Metal-Organic Framework for Promoting Antibacterial Performance by Synergistic Chemical-Photodynamic Therapy.
19. Stereogenic Harmony Fabricated Mechanoresponsive Homochiral Triphenylalanine Analogues with Synergistic Antibacterial Performances: A Potential Weapon for Dermal Wound Management.
20. Humidity-adjustable functional gelatin hydrogel/ethyl cellulose bilayer films for active food packaging application.
21. Biosynthesis of Peptide Hydrogel-Titania Nanoparticle Composites with Antibacterial Properties.
22. Plant-Derived Nanocellulose with Antibacterial Activity for Wound Healing Dressing.
23. Development of an In Situ Photo-Crosslinking Antimicrobial Collagen Hydrogel for the Treatment of Infected Wounds.
24. Preparation of a Dual-Functional Active Film Based on Bilayer Hydrogel and Red Cabbage Anthocyanin for Maintaining and Monitoring Pork Freshness.
25. Constructing a novel humidity sensor using acrylic acid/bagasse cellulose porous hydrogel combining graphene oxide and citral for antibacterial and intelligent fruit preservation.
26. All-Natural Injectable Antibacterial Hydrogel Enabled by Chitosan and Borneol.
27. 2D MOF Based-heterostructure with Hierarchical Architecture as Antibacterial Wound Dressing.
28. Fucoidan-coated cotton dressing functionalized with biomolecules capped silver nanoparticles (LB-Ag nps-FN-ocg) for rapid healing therapy of infected wounds.
29. Azithromycin-loaded liposomal hydrogel: a step forward for enhanced treatment of MRSA-related skin infections.
30. Engineering Single-Component Antibacterial Anti-inflammatory Polyitaconate-Based Hydrogel for Promoting Methicillin-Resistant Staphylococcus aureus-Infected Wound Healing and Skin Regeneration.
31. Double Cross-Linked Hydrogel Dressings Based on Triblock Copolymers Bearing Antifreezing, Antidrying, and Inherent Antibacterial Properties.
32. Development and biological evaluation of smart powder bandage for wound healing and dressing applications.

Guidelines

1. Vernix caseosa reveals mechanistic clues linking maternal obesity to atopic dermatitis pathogenesis.
2. Production of a selective antibacterial fatty acid against Staphylococcus aureus by Bifidobacterium strains.
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Other news of possible interest