**Dermal Literature Review**

**Period: 01/05/2024 – 01/06/2024**

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Scientific Highlights:

Burn wound Infections (infections of or preventing infections)

1. Bloodstream infections and multidrug resistant bacteria acquisition among burns patients in Australia and New Zealand: A registry-based study.
2. Distribution of Nosocomial Pathogens and Antimicrobial Resistance among Patients with Burn Injuries in China: A Comprehensive Research Synopsis and Meta-Analysis.
3. Detection and modeling of Staphylococcus aureus and fecal bacteria in Hawaiian coastal waters and sands.
4. Evaluation of hemostatic, anti-inflammatory, wound healing, skin irritation and allergy, and antimicrobial properties of active fraction from the ethanol extract of Chromolaena odorata (L.) R.M. King & H. Rob.
5. In vitro and in vivo assessment of curcumin-quercetin loaded multi-layered 3D-nanofibroporous matrix prepared by solution blow-spinning for full-thickness burn wound healing.
6. In vitro and in vivo burn healing study of standardized propolis: Unveiling its antibacterial, antioxidant and anti-inflammatory actions in relation to its phytochemical profiling.
7. Antiseptic management of critical wounds: differential bacterial response upon exposure to antiseptics and first insights into antiseptic/phage interactions - experimental studies.
8. Cu-MOF loaded chitosan based freeze-dried highly porous dressings with anti-biofilm and pro-angiogenic activities accelerated Pseudomonas aeruginosa infected wounds healing in rats.
9. Graphene-silymarin-loaded chitosan/gelatin/hyaluronic acid hybrid constructs for advanced full-thickness burn wound management.
10. Effects of montmorillonite on the loading and release of Piper betle L. extract applied for wound dressing based on chitosan/polyvinyl alcohol.

Diabetic Foot Ulcers

1. Primary arthrodesis for diabetic ankle fractures using a modified retrograde femoral intramedullary locking nail combined with lateral plating, surgical technique, and early results of a pilot study.
2. Mitochondrial Diabetes Mellitus With Mitochondrial DNA 3316G>A Mutation: A Unique Autopsy Case Presenting With Sepsis-Associated Cholestasis.
3. Direct metagenomics investigation of non-surgical hard-to-heal wounds: a review.
4. Combining antibiotic-loaded bone cement-based free vastus lateralis muscle-sparing flap with split-thickness skin grafts: A reliable strategy for reconstructing diabetic foot ulcers at non-weight-bearing areas.
5. The Efficacy of Diabetic Foot Treatment in a "TOSF" Pattern: A Five-Year Retrospective Study.
6. Subcutaneous phaeohyphomycosis due to Phaeoacremonium venezuelense: The first clinical case report in Costa Rica.
7. Effect of Elevated Blood Glucose on Postoperative Complications Among Diabetic Patients After Surgical Treatment of Torsional Ankle Fracture.
8. Surveillance of Enterobacteriaceae from Diabetic Foot Infections in a Tunisian Hospital: Detection of E. coli-ST131-bla(CTX-M-15) and K. pneumoniae-ST1-bla(NDM-1) Strains.
9. Gases and gas-releasing materials for the treatment of chronic diabetic wounds.
10. Janus liposozyme for the modulation of redox and immune homeostasis in infected diabetic wounds.
11. Using 3D Bioprinted Autologous Minimally Manipulated Homologous Adipose Tissue for Limb Salvage in Treating Diabetic Foot Ulcer.
12. Effects of Recombinant Human Granulocyte/Macrophage Colony-Stimulating Factor on Diabetic Lower Extremity Ulcers: Case Series of Nine Patients.
13. GlmS plays a key role in the virulence factor expression and biofilm formation ability of Staphylococcus aureus promoted by advanced glycation end products.
14. Rapid Access From Primary Care to a Multidisciplinary Clinic at Tertiary Care Improves Clinical Outcomes for Patients With Diabetic Foot Ulcers: Results From Diabetic Foot in Primary and Tertiary (DEFINITE) Care's Lower Extremity Amputation Prevention Program (LEAPP) Clinic.
15. A peptide-based pH-sensitive antibacterial hydrogel for healing drug-resistant biofilm-infected diabetic wounds.
16. Impact of foot ulcer-related factors on quality of life in patients with diabetes: Prospective observational study.
17. Risk factors for malnutrition in patients with diabetic foot ulcer and its association with prolonged length of hospitalization.
18. Treating chronic wounds in an acute care setting: the forgotten diagnosis.
19. Nanozymes for the Therapeutic Treatment of Diabetic Foot Ulcers.
20. Rifampicin in the Treatment of Refractory Diabetic Foot Ulcer and Diabetic Foot Osteomyelitis-an Observational Study.
21. Enhancing Wound Healing in Chronic Diabetic Foot Ulcers: A Case Report of Topical Oxygen Therapy with Granulox®.
22. Bacteriological analysis and antibiotic resistance in patients with diabetic foot ulcers in Dhaka.
23. Limb salvage and systemic management of gouty tophi: Case series.
24. A Comparison of Adverse Short-Term Outcomes After Forefoot Amputation Based on Patient Height.
25. Association of Preulcerative Foot Care and Outcomes of Diabetic Foot Ulceration.
26. Definitive single-stage surgery for treating diabetic foot osteomyelitis: a protocolized pathway including antibiotic bone graft substitute use.
27. Assessment between antiseptic and normal saline for negative pressure wound therapy with instillation and dwell time in diabetic foot infections.
28. Decoding the complexity of delayed wound healing following Enterococcus faecalis infection.
29. Efficacy of Huangma Ding or autologous platelet-rich gel for the diabetic lower extremity arterial disease patients with foot ulcers.
30. Charcot Neuro-Osteoarthropathy With Superimposed Osteomyelitis in a Nondiabetic Patient, as a Consequence of Cancer Chemotherapy: A MR-Monitored Case Report.
31. Smart diabetic foot ulcer scoring system.
32. Analysis of Distribution and Drug Susceptibility Test Results of Pathogenic Bacteria in Diabetic Foot Ulcers.
33. Does PAD and microcirculation status impact the tissue availability of intravenously administered antibiotics in patients with infected diabetic foot? Results of the DFIATIM substudy.
34. Changes in daily nursing needs and self-care capability of people with diabetes after in-hospital treatment for foot complications: A descriptive study.
35. Virulence characteristics of Gram-positive bacteria isolated from diabetic foot ulcers.
36. Clinical characteristics of patients with diabetic foot using WIfI classification-A pilot study in Vietnam.
37. Factors Influencing Wound Healing in Diabetic Foot Patients.
38. Current Knowledge and Perspectives of Phage Therapy for Combating Refractory Wound Infections.
39. Dramatic Wound Closing Effect of a Single Application of an iBTA-Induced Autologous Biosheet on Severe Diabetic Foot Ulcers Involving the Heel Area.
40. Therapeutic Effectiveness of Leukocyte- and Platelet-rich Fibrin for Diabetic Foot Ulcers: A Retrospective Study.
41. Deciphering Diabetic Foot Wounds: A Comprehensive Review on Classification, Multidrug Resistance, Microbial Insights, Management & Treatment Strategies, and Advanced Diagnostic Tools.
42. Predictors of operative management in diabetic foot ulcers.
43. Dose-response and efficacy of 904 nm photobiomodulation on diabetic foot ulcers healing: a randomized controlled trial.
44. Brazilian Society of Angiology and Vascular Surgery 2023 guidelines on the diabetic foot.
45. An overview of diabetes-related foot ulcers.
46. Anaerobes in diabetic foot infections: pathophysiology, epidemiology, virulence, and management.
47. Clinical outcomes in OPAT patients treated with ceftriaxone 4 g and ceftazidime 6 g extended interval dosing regimens.

Venous Leg Ulcers

1. Efficacy and safety of an anti-infection topical desiccating agent (DEBRICHEM) in hard-to-heal wounds.
2. Photocatalytic degradation of antibiotic sulfamethizole by visible light activated perovskite LaZnO(3).

Dermal Biofilms

1. A survey of multiple candidate probiotic bacteria reveals specificity in the ability to modify the effects of key wound pathogens.
2. The Effects of Ultrasonic Scaling and Air-Abrasive Powders on the Topography of Implant Surfaces: Scanning Electron Analysis and In Vitro Study.
3. Hindering the biofilm of microbial pathogens and cancer cell lines development using silver nanoparticles synthesized by epidermal mucus proteins from Clarias gariepinus.
4. Farnesol repurposing for prevention and treatment of Acinetobacter baumannii biofilms.
5. Ambient Synthesis of Porphyrin-Based Fe-Covalent Organic Frameworks for Efficient Infected Skin Wound Healing.
6. High-Intensity Blue Light (450-460 nm) Phototherapy for Pseudomonas aeruginosa-Infected Wounds.
7. Investigation into the Anti-Acne Effects of Castanea sativa Mill Leaf and Its Pure Ellagitannin Castalagin in HaCaT Cells Infected with Cutibacterium acnes.
8. Antibiofilm Activity of Combretum micranthum G. Don Catechin-Sugar Phytocomplex on Pseudomonas aeruginosa.
9. Acorus calamus L. rhizome extract and its bioactive fraction exhibits antibacterial effect by modulating membrane permeability and fatty acid composition.
10. Bacterial fluorescence imaging as a predictor of skin graft integration in burn wounds.
11. NF-κB-Signaling-Targeted Immunomodulatory Nanoparticle with Photothermal and Quorum-Sensing Inhibition Effects for Efficient Healing of Biofilm-Infected Wounds.
12. Comparative virulome analysis of four Staphylococcus epidermidis strains from human skin and platelet concentrates using whole genome sequencing.
13. Lipase-mediated detoxification of host-derived antimicrobial fatty acids by Staphylococcus aureus.
14. Biosynthesized silver nanoparticles prevent bacterial infection in chicken egg model and mitigate biofilm formation on medical catheters.
15. Synergy of lytic phage pB23 and meropenem combination against carbapenem-resistant Acinetobacter baumannii.
16. Poly-β-(1→6)-N-acetyl-D-glucosamine mediates surface attachment, biofilm formation, and biocide resistance in Cutibacterium acnes.
17. In Vitro Evaluation of Mangostanin as an Antimicrobial and Biocompatible Topical Antiseptic for Skin and Oral Tissues.
18. Anti-MRSA mechanism of spirostane saponin in Rohdea pachynema F.T.Wang & Tang.
19. Effect of Ducrosia anethifolia methanol extract against methicillin resistant Staphylococcus aureus and Pseudomonas aeruginosa biofilms on excision wound in diabetic mice.
20. Structure-Based Optimization of Novel Sterol 24-C-Methyltransferase Inhibitors for the Treatment of Candida albicans Infections.
21. High-Intensity Blue Light (450-460 nm) Phototherapy for Pseudomonas aeruginosa-Infected Wounds.
22. Ursoricin, a bacteriocin of Streptococcus ursoris, has potent activity against methicillin-resistant Staphylococcus aureus and vancomycin-resistant enterococci.
23. Medical Device-Associated Biofilm Infections and Multidrug-Resistant Pathogens.
24. The interplay of Pseudomonas aeruginosa and Staphylococcus aureus in dual-species biofilms impacts development, antibiotic resistance and virulence of biofilms in in vitro wound infection models.
25. Pre-asthma: a useful concept? A EUFOREA paper. Part 2-late onset eosinophilic asthma.

Atopic Dermatitis & SA

1. Distinct T cell signatures are associated with Staphylococcus aureus skin infection in pediatric atopic dermatitis.
2. Atopic Dermatitis Disease Complications.
3. Cutaneous inflammasome driving ASC / gasdermin-D activation and IL-1β-secreting macrophages in severe atopic dermatitis.
4. Staphylococcus aureus-specific skin resident memory T cells protect against bacteria colonization but exacerbate atopic dermatitis-like flares in mice.
5. IL-24 promotes atopic dermatitis-like inflammation through driving MRSA-induced allergic responses.
6. Exploring the skin microbiome in atopic dermatitis pathogenesis and disease modification.
7. In Silico Elucidation of Key Drivers of Staphyloccocus aureus-Staphyloccocus epidermidis-Induced Skin Damage in Atopic Dermatitis Lesions.
8. Combined metagenomic- and culture-based approaches to investigate bacterial strain-level associations with medication-controlled mild-moderate atopic dermatitis.
9. Fermented Rapeseed and Soybean Alone and in Combination with Macro Algae Inhibit Human and Pig Pathogenic Bacteria In Vitro.
10. Methicillin-resistant Staphylococcus aureus and coagulase-negative Staphylococcus produce antimicrobial substances against members of the skin microbiota in children with atopic dermatitis.
11. Comprehensive analysis of phenotypes and transcriptome characteristics reveal the best atopic dermatitis mouse model induced by MC903.
12. Acid-treated Staphylococcus aureus induces acute silkworm hemolymph melanization.

Dermal Fungal

1. Burn Wound Healing Abilities of a Uronic Acid Containing Exopolysaccharide Produced by the Marine Bacterium Halomonas malpeensis YU-PRIM-29( T).
2. FLT3L governs the development of partially overlapping hematopoietic lineages in humans and mice.
3. Phlomis crinita Cav. from Algeria: A source of bioactive compounds possessing antioxidant and wound healing activities.
4. Recycled melanoma-secreted melanosomes regulate tumor-associated macrophage diversification.
5. Biologically active sodium pentaborate pentahydrate and Hypericum perforatum oil loaded poly vinyl alcohol: Chitosan membranes.
6. The Effect of Phenolic-Rich Extracts of Rubus fruticosus, R. ulmifolius and Morus nigra on Oxidative Stress and Caco-2 Inhibition Growth.
7. Green Synthesized Chitosan Nanoparticles for Controlling Multidrug-Resistant mecA- and blaZ-Positive Staphylococcus aureus and aadA1-Positive Escherichia coli.
8. Study on the Skincare Effects of Red Rice Fermented by Aspergillus oryzae In Vitro.
9. Congener-specific fate and impact of microcystins in the soil-earthworm system.
10. Breast reconstruction with mentor anatomical implants and the risk of implant rotation: A retrospective study of 1134 women.
11. The Dynamic Relationship between Dengue Virus and the Human Cutaneous Innate Immune Response.
12. UBE2N is essential for maintenance of skin homeostasis and suppression of inflammation.
13. In Vitro Wound Healing and Anticancer Effects of Ixora coccinea in Malignant Melanoma Cell Lines.
14. Informal E -waste recycling in nine cities of Pakistan reveals significant impacts on local air and soil quality and associated health risks.

Competitors

1. Emergence and spread of a mupirocin-resistant variant of the European epidemic fusidic acid-resistant impetigo clone of Staphylococcus aureus, Belgium, 2013 to 2023.

Dressings

1. Preparation and characterization of a polyurethane-based sponge wound dressing with a superhydrophobic layer and an antimicrobial adherent hydrogel layer.
2. Electroconductive cardiac patch based on bioactive PEDOT:PSS hydrogels.
3. An injectable, chitosan-based hydrogel prepared by Schiff base reaction for anti-bacterial and sustained release applications.
4. Silk fibroin sponge impregnated with fish bone collagen: A promising wound healing scaffold and skin tissue regeneration.
5. Human-Derived collagen hydrogel as an antibiotic vehicle for topical treatment of bacterial biofilms.
6. N-Hydroxyalkanamide Based Organo/hydrogels as Novel Scaffolds for pH-Dependent Metronidazole and Theophylline Release.
7. Chemical and physical modification of graphene oxide nano-sheets using casein, Zn-Al layered double hydroxide, alginate hydrogel, and magnetic nanoparticles for biomedical applications.
8. Theranostic antibacterial hydrogel based on biopolymers cross-linked and doped with phytic acid from rice bran for wound healing.
9. Antibacterial polyurethane foams with quaternized-chitosan as a chain extender for nasal packing and hemostasis.
10. Sprayable and self-healing chitosan-based hydrogels for promoting healing of infected wound via anti-bacteria, anti-inflammation and angiogenesis.
11. Hydroxypropyl chitosan/ε-poly-l-lysine based injectable and self-healing hydrogels with antimicrobial and hemostatic activity for wound repair.
12. Efficient drug delivery potential and antimicrobial activity of biocompatible hydrogels of dextrin/Na-alginate/PVA.
13. Agar-tragacanth/silk fibroin hydrogel containing Zn-based MOF as a novel nanobiocomposite with biological activity.
14. An Immune-Regulating Polysaccharide Hybrid Hydrogel with Mild Photothermal Effect and Anti-Inflammatory for Accelerating Infected Wound Healing.
15. The use of custom-made negative pressure wound therapy to manage acute wound infections: a retrospective outcomes study.
16. Fabrication of sulfobutylether-β-cyclodextrin/glabridin inclusion complex for promoting bioactivities.
17. Covalently grafting polycation to bacterial cellulose for antibacterial and anti-cell adhesive wound dressings.
18. Lysine-based non-cytotoxic ultrashort self-assembling peptides with antimicrobial activity.
19. Innovative Vancomycin-Loaded Hydrogel-Based Systems - New Opportunities for the Antibiotic Therapy.
20. NIR-activated electrospun nanodetonator dressing enhances infected diabetic wound healing with combined photothermal and nitric oxide-based gas therapy.
21. All-in-one hydrogel patches with sprayed bFGF-loaded GelMA microspheres for infected wound healing studies.
22. Electron Beam-Supported Fabrication of Biocompatible Silver/iota-Carrageenan for Wound Healing Application.
23. A Zn-MOF-GOx-based Cascade Nanoreactor Promotes Diabetic Infected Wound Healing by NO Release and Microenvironment Regulation.
24. Chitosan-based GOx@Co-MOF composite hydrogel: A promising strategy for enhanced antibacterial and wound healing effects.
25. LL37 Microspheres Loaded on Activated Carbon-chitosan Hydrogel: Anti-bacterial and Anti-toxin Wound Dressing for Chronic Wound Infections.
26. Fabrication and characterization of sodium alginate-silicon nitride-PVA composite biomaterials with damping properties.
27. Silver-loaded poly(vinyl alcohol)/polycaprolactone polymer scaffold as a biocompatible antibacterial system.
28. Tannic Acid Incorporated Antibacterial Polyethylene Glycol-Based Hydrogel Sponges for Management of Wound Infections.
29. Lignin-cellulose complexes derived from agricultural wastes for combined antibacterial and tissue engineering scaffolds for cutaneous leishmaniasis wounds.
30. Programable sewage-cleaning technology: Regenerating chitosan biofilms with anti-bacterial capacity via self-purification of water pollutants.
31. Synthesis of carboxymethyl chitosan-guar gum-poly(vinylpyrrolidone) ternary blended hydrogels with antibacterial/anticancer efficacy and drug delivery applications.
32. Injectable Photothermal PDA/Chitosan/β-Glycerophosphate Thermosensitive Hydrogels for Antibacterial and Wound Healing Promotion.
33. A hydrogel-functionalized silver nanocluster for bacterial-infected wound healing.
34. Nanocomposite alginate hydrogel loaded with propranolol hydrochloride kolliphor(®) based cerosomes as a repurposed platform for Methicillin-Resistant Staphylococcus aureus-(MRSA)-induced skin infection; in-vitro, ex-vivo, in-silico, and in-vivo evaluation.
35. Green synthesis of metal nanoparticles and study their anti-pathogenic properties against pathogens effect on plants and animals.
36. Mussel-inspired antimicrobial hydrogel with cellulose nanocrystals/tannic acid modified silver nanoparticles for enhanced calvarial bone regeneration.
37. Specific delivery of metronidazole using microparticles and thermosensitive in situ hydrogel for intrapocket administration as an alternative in periodontitis treatment.
38. Laponite/lactoferrin hydrogel loaded with eugenol for methicillin-resistant Staphylococcus aureus-infected chronic skin wound healing.
39. The Effectiveness of Polyhexanide in Treating Wound Infections Due to Methicillin-Resistant Staphylococcus Aureus: A Prospective Analysis.
40. Tracheal regeneration and mesenchymal stem cell augmenting potential of natural polyphenol-loaded gelatinmethacryloyl bioadhesive.
41. Heme-Mimetic Photosensitizer with Iron-Targeting and Internalizing Properties for Enhancing PDT Activity and Promoting Infected Diabetic Wound Healing.
42. Multi-Faceted Antimicrobial Efficacy of a Quinoline-Derived Bidentate Copper(II) Ligand Complex and Its Hydrogel Encapsulated Formulation in Methicillin-Resistant Staphylococcus aureus Inhibition and Wound Management.
43. Silver and Copper Nanoparticle-Loaded Self-Assembled Pseudo-Peptide Thiourea-Based Organic-Inorganic Hybrid Gel with Antibacterial and Superhydrophobic Properties for Antifouling Surfaces.
44. Instant clot forming and antibacterial wound dressings: Achieving hemostasis in trauma injuries with S-nitroso-N-acetylpenicillamine-tranexamic acid-propolis formulation.
45. Incorporation of Resveratrol-Hydroxypropyl-β-Cyclodextrin Complexes into Hydrogel Formulation for Wound Treatment.
46. Antibacterial and Antibiofilm Potential of Bacterial Cellulose Hydrogel Containing Vancomycin against Multidrug-Resistant Staphylococcus aureus and Staphylococcus epidermidis.
47. Cotton Fabric-Reinforced Hydrogels with Excellent Mechanical and Broad-Spectrum Photothermal Antibacterial Properties.
48. Alternating Current Electrospinning of Polycaprolactone/Chitosan Nanofibers for Wound Healing Applications.
49. An Injectable, Self-Healing, Adhesive Multifunctional Hydrogel Promotes Bacteria-Infected Wound Healing.
50. Antibacterial, Anti-Biofilm, and Anti-Inflammatory Properties of Gelatin-Chitosan-Moringa-Biopolymer-Based Wound Dressings towards Staphylococcus aureus and Escherichia coli.
51. Preparation and characterization of ternary polysaccharide hydrogels based on carboxymethyl cellulose, carboxymethyl chitosan, and carboxymethyl β-cyclodextrin.
52. Fabrication and characterization of physically crosslinked alginate/chitosan-based hydrogel loaded with neomycin for the treatment of skin infections caused by Staphylococcus aureus.
53. Fabrication of gelatin-based antibacterial bilayer wound dressing using direct writing and electrospinning methods.
54. Preparation and Characterization of Carboxymethyl Chitosan/Sodium Alginate Composite Hydrogel Scaffolds Carrying Chlorhexidine and Strontium-Doped Hydroxyapatite.
55. Citrus flavonoids-loaded chitosan derivatives-route nanofilm as drug delivery systems for cutaneous wound healing.
56. Genipin crosslinked quaternary ammonium chitosan hydrogels potential for wound dressings.
57. Biological investigation of a novel nanocomposite based on xanthan gum-alginate hydrogel/PVA, incorporated with ZnMnFe(2)O(4) nanoparticles.
58. Herbal small molecule-based low/medium internal phase supramolecular gel emulsion for diabetic wound healing.

Staphylococcal skin infection

1. Eliminate all risks: A call to reexamine the link between canine scabies and rheumatic heart disease.
2. An injectable hydrogel dressing for controlled release of hydrogen sulfide pleiotropically mediates the wound microenvironment.
3. Recombinational exchange of M-fibril and T-pilus genes generates extensive cell surface diversity in the global group A Streptococcus population.
4. Inborn errors of immunity with susceptibility to S. aureus infections.
5. Staphylococcus Scalded Skin Syndrome-Induced Thrombosis Leading to Free Flap Complications: A Case Report and Review.
6. Keratinocytes present Staphylococcus aureus enterotoxins and promote malignant and non-malignant T cell proliferation in cutaneous T cell lymphoma.
7. Collaborative Cross mice have diverse phenotypic responses to infection with Methicillin-resistant Staphylococcus aureus USA300.
8. OTULIN deficiency: focus on innate immune system impairment.
9. Characterisation of PVL-Positive Staphylococcus argenteus from the United Arab Emirates.
10. Not just in man's best friend: A review of Staphylococcus pseudintermedius host range and human zoonosis.

Other news of possible interest