**Dermal Literature Review**

**Period: 01/04/2024 – 01/05/2024**

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Scientific Highlights:

Burn wound Infections (infections of or preventing infections)

1. Fabrication and Therapeutic Process of a Green Silver-Nanoparticle-Embedded Mucilage Microsphere for Pathogenic-Bacteria-Infected Second-Degree Burn and Excision Wounds.
2. Correlation between inflammatory factors, autophagy protein levels, and infection in granulation tissue of diabetic foot ulcer.
3. Copper Ion-Inspired Dual Controllable Drug Release Hydrogels for Wound Management: Driven by Hydrogen Bonds.
4. Copper selenide nanosheets with photothermal therapy-related properties and multienzyme activity for highly effective eradication of drug resistance.
5. Corneal Deposits: A Presentation of Arthrobacter Keratitis.
6. Getting to the heart of the matter-are two agents really better than one for the treatment of staphylococcal infective endocarditis?
7. Rice husk valorisation by in situ grown MoS(2) nanoflowers: a dual-action catalyst for pollutant dye remediation and microbial decontamination.
8. A woman in her fifties with a post-operative infection, generalised rash and organ failure.
9. Repurposing Farnesol for Combating Drug-Resistant and Persistent Single and Polymicrobial Biofilms.
10. Specific and off-target immune responses following COVID-19 vaccination with ChAdOx1-S and BNT162b2 vaccines-an exploratory sub-study of the BRACE trial.
11. Extended Reality Head-Mounted Displays Are Likely to Pose a Significant Risk in Medical Settings While Current Classification Remains as Non-Critical.
12. Assessing antibacterial efficacy of a polyhexanide hydrogel versus alginate-based wound dressing in burns.
13. Natural polyphenolic antibacterial bio-adhesives for infected wound healing.

Diabetic Foot Ulcers

1. Letter: Predictive Value of C-Reactive Protein to Albumin Ratio for Amputation Risk in Diabetic Foot Infection: Reply.
2. 16S rRNA seq-identified Corynebacterium promotes pyroptosis to aggravate diabetic foot ulcer.
3. Efficacy and Safety of Oral and IV Levonadifloxacin Therapy in Management of Bacterial Infections: Findings of a Prospective, Observational, Multi-center, Post-marketing Surveillance Study.
4. Early outcomes and complications of surgically treated diabetic hallucal infection.
5. Topical pravibismane as adjunctive therapy for moderate or severe diabetic foot infections: A phase 1b randomized, multicenter, double-blind, placebo-controlled trial.
6. Update of biomarkers to diagnose diabetic foot osteomyelitis: A meta-analysis and systematic review.
7. Multidisciplinary management of diabetic foot infection associated with improved 8-year overall survival.
8. Characteristics and outcomes of diabetic foot ulcers treated with surgical debridement and standardized wound care.
9. Differences in characteristics between first-ever foot ulcer and recurrent foot ulcer in patients with diabetes: Prospective observational study.
10. M.O.I.S.T. Concept for the Local Therapy of Chronic Wounds: An International Update.
11. Amide proton transfer weighted contrast has diagnostic capacity in detecting diabetic foot: an MRI-based case-control study.
12. Predictive Ability of LRINEC Score for Lower Extremity Amputation in Moderate to Severe Diabetic Foot Infection.
13. Global burden of 288 causes of death and life expectancy decomposition in 204 countries and territories and 811 subnational locations, 1990-2021: a systematic analysis for the Global Burden of Disease Study 2021.
14. Diabetic Osteomyelitis: Oral vs Intravenous Antibiotics at a Single Level 1 Academic Medical Trauma Center.
15. An observational study of the pH value during the healing process of diabetic foot ulcer.
16. Advanced multifunctional hydrogels for diabetic foot ulcer healing: Active substances and biological functions.
17. Use of biosurgery for the treatment of foot ulcers infected with therapy-resistant bacteria: a case report.
18. A purified reconstituted bilayer matrix shows improved outcomes in treatment of non-healing diabetic foot ulcers when compared to the standard of care: Final results and analysis of a prospective, randomized, controlled, multi-centre clinical trial.
19. The foot in diabetes - a reminder of an ever-present risk.
20. Relationship between Prognostic Nutritional Index and Amputation in Patients with Diabetic Foot Ulcer.
21. Peripheral Arterial Disease and the Diabetic Foot Syndrome: Neuropathy Makes the Difference! A Narrative Review.
22. Peripheral Blood Eosinophilia in Patients with Diabetic Foot Infection Receiving Long-Term Antibiotic Therapy.
23. Diagnostic Performance of Atherogenic Index of Plasma for Predicting Diabetic Foot Osteomyelitis with Peripheral Artery Disease.
24. Prevalence of multidrug-resistant bacterial infections in diabetic foot ulcers: A meta-analysis.
25. Microbiological Distribution, Antimicrobial Susceptibility and Risk Factors of Polymicrobial Infections in Diabetic Foot.
26. Vasculitis and infectious risk in a patient with type 2 diabetes mellitus: A case report.
27. Two-year incidence and risk factors of diabetic foot ulcer: second phase report of Ahvaz diabetic foot cohort (ADFC) study.
28. Selective Delivery of Clindamycin Using a Combination of Bacterially Sensitive Microparticle and Separable Effervescent Microarray Patch on Bacteria Causing Diabetic Foot Infection.
29. Diabetic management and infection risk in total ankle arthroplasty.
30. Diabetic Foot Infections in the Emergency Department.
31. Narrative review on nanoparticles based on current evidence: therapeutic agents for diabetic foot infection.
32. Exploring the efficacy of photodynamic antimicrobial chemotherapy on diabetic foot ulcers in rats.
33. Potassium permanganate in treatment of diabetic foot ulcer: A randomized clinical trial.
34. The usefulness of quantitative (99m)Tc-HMPAO WBC SPECT/CT for predicting lower extremity amputation in diabetic foot infection.
35. Association between onychomycosis and ulcerative complications in patients with diabetes: a longitudinal cohort study in Dutch general practice.
36. Teicoplanin-decorated Reduced Graphene Oxide Incorporated Silk Protein Hybrid Hydrogel for Accelerating Infectious Diabetic Wound Healing and Preventing Diabetic Foot Osteomyelitis.
37. Multimodal imaging device to comprehensively assess infection, oxygenation, and wound analytics-A pilot study.
38. The effect of the different waves of COVID-19 pandemic on the outcome of diabetic foot ulcers.
39. The Potential Role of Presepsin in Predicting Severe Infection in Patients with Diabetic Foot Ulcers.
40. Confronting a New Challenge in Plastic Surgery: MDR Infections in Patients with Chronic Wounds.
41. Level of Agreement With a Multi-Test Approach to the Diagnosis of Diabetic Foot Osteomyelitis: Methodological Issue.
42. Activated carbon cloth versus silver-based dressings in a population with diabetic foot ulcer: a randomised controlled trial.
43. Diabetes-related lower limb wounds: Antibiotic susceptibility pattern and biofilm formation.
44. Prevalence and risk factors of wound complications after transtibial amputation in patients with diabetic foot.

Venous Leg Ulcers

1. Sub-ulcer Foam Sclerotherapy in Patients with Venous Leg Ulcer, Analysis and Technical Aspects of 134 Consecutive Patients.
2. Development of a core outcome set for use in research evaluations of interventions for venous leg ulceration: International eDelphi consensus.
3. Improving outcomes for patients with hard-to-heal wounds following adoption of the Wound Hygiene Protocol: real-world evidence.

Dermal Biofilms

1. The Candida auris Hog1 MAP kinase is essential for the colonization of murine skin and intradermal persistence.
2. Novel bioactive nanospheres show effective antibacterial effect against multiple endodontic pathogens.
3. What is slough? Defining the proteomic and microbial composition of slough and its implications for wound healing.
4. The wound microbiota: microbial mechanisms of impaired wound healing and infection.
5. Improved in vitro wound healing in response to a superoxidised solution.
6. Experience of diagnosis and treatment of hard-to-heal wounds infected with Acinetobacter baumannii: a case study.
7. A Catheter-Related Candida albicans Infection Model in Mouse.
8. Unraveling UVB effects: Catalase activity and molecular alterations in the stratum corneum.
9. Exploring the potential and challenges of developing physiologically-based toxicokinetic models to support human health risk assessment of microplastic and nanoplastic particles.
10. Fabrication and evaluation of ribavirin-loaded electrospun nanofibers as an antimicrobial wound dressing.
11. Polyproline peptide targets Klebsiella pneumoniae polysaccharides to collapse biofilms.
12. Biomarkers for phenotype-endotype relationship in atopic dermatitis: a critical review.
13. Exploration of the Antibacterial and Anti-Inflammatory Activity of a Novel Antimicrobial Peptide Brevinin-1BW.
14. Evaluation and activity of new porphyrin-peptide cage-type conjugates for the photoinactivation of Mycobacterium abscessus.
15. Cellular therapeutics and immunotherapies in wound healing - on the pulse of time?
16. In vitro and in vivo evaluation of the anti-infective potential of the essential oil extracted from the leaves of Plectranthus amboinicus (Lour.) Spreng against Klebsiella pneumoniae and elucidation of its mechanism of action through proteomics approach.
17. Structure optimizing of flavonoids against both MRSA and VRE.
18. Chemo-photothermal therapy of chitosan/gold nanorod clusters for antibacterial treatment against the infection of planktonic and biofilm MRSA.
19. The bacillithiol pathway is required for biofilm formation in Staphylococcus aureus.
20. In Vitro/Vivo Mechanisms of Antibacterial Peptide NZ2114 against Staphylococcus pseudintermedius and Its Biofilms.
21. Identification and florfenicol-treatment of pseudomonas putida infection in gilthead seabream (Sparus aurata) fed on tilapia-trash-feed.
22. Prophage-encoded methyltransferase drives adaptation of community-acquired methicillin-resistant Staphylococcus aureus.
23. Bactericidal and biofilm eradication efficacy of a fluorinated benzimidazole derivative, TFBZ, against methicillin-resistant Staphylococcus aureus.
24. Cell-Free Supernatant from a Strain of Bacillus siamensis Isolated from the Skin Showed a Broad Spectrum of Antimicrobial Activity.
25. Safety and effectiveness of an antiseptic wound cleansing and irrigation solution containing polyhexamethylene biguanide.

Atopic Dermatitis & SA

1. Multi-omics analyses reveal interactions between the skin microbiota and skin metabolites in atopic dermatitis.
2. Secondary Bacterial Infections in Patients with Atopic Dermatitis or Other Common Dermatoses.
3. Spatial modeling connecting childhood atopic dermatitis prevalence with household exposure to pollutants.
4. Inhibition of RNase 7 by RNase inhibitor promotes inflammation and Staphylococcus aureus growth: Implications for atopic dermatitis.
5. Unveiling the mechanisms for the development of rosehip-based dermatological products: an updated review.
6. Emerging drugs for the treatment of atopic dermatitis: a focus on phase 2 and phase 3 trials.

Dermal Fungal

1. Cutaneous Syncytial Myoepithelioma: An Uncommon and Distinct Variant of Cutaneous Epithelioid Neoplasm.
2. EphB2 receptor promotes dermal fibrosis in systemic sclerosis.
3. Rickettsia rickettsii virulence determinants RARP2 and RapL mitigate IFN-β signaling in primary human dermal microvascular endothelial cells.
4. Ginkgo biloba extract ameliorates skin fibrosis in a bleomycin-induced mouse model of systemic sclerosis.
5. Potential for Glove Risk Amplification via Direct Physical, Chemical, and Microbiological Contamination.

Competitors

1. Synthesis and characterization of mupirocin-LDH/PVA nanofibrous composite as a dual-carrier drug release system.
2. Australasian Malignant PLeural Effusion (AMPLE)-4 trial: study protocol for a multi-centre randomised trial of topical antibiotics prophylaxis for infections of indwelling pleural catheters.
3. [Antiseptics in otorhinolaryngology-a substance overview].
4. Targeting FTO induces colorectal cancer ferroptotic cell death by decreasing SLC7A11/GPX4 expression.
5. Prevalence and genetic characteristics of Staphylococcus aureus isolates from cell phones of medical students from Iran.
6. Indwelling pleural catheter infection and colonisation: a clinical practice review.
7. Hygiene Measures and Decolonization of Staphylococcus aureus Made Simple for the Pediatric Practitioner.
8. Correction: Alhasso et al. Development of a Nanoemulgel for the Topical Application of Mupirocin. Pharmaceutics 2023, 15, 2387.

Dressings

1. Enhanced physiochemical, antibacterial, and hemostatic performance of collagen-quaternized chitosan-graphene oxide sponges for promoting infectious wound healing.
2. Dextran-based antibacterial hydrogel-derived fluorescent sensors for the visual monitoring of AgNPs.
3. HOCl-producing Electrochemical Bandage is Active in Murine Polymicrobial Wound Infection.
4. Propolis-Loaded Poly(lactic-co-glycolic Acid) Nanofibers: An In Vitro Study.
5. Topical Nanoemulsion Hydrogel Formulated from Supercritical Fluid Extracted Palm-Pressed Fiber Oil and Virgin Coconut Oil with Antioxidant and Antibacterial Effects.
6. A self-healing crosslinked-xanthan gum/soy protein based film containing halloysite nanotube and propolis with antibacterial and antioxidant activity for wound healing.
7. Nano-scaled polyacrylonitrile for industrialization of nanofibers with photoluminescence and microbicide performance.
8. Bactericidal Effect and Cytotoxicity of Graphene Oxide/Silver Nanocomposites.
9. Self-assembling peptide hydrogel scaffold integrating stem cell-derived exosomes for infected bone defects.
10. Antibacterial wound dressing with cross-linked electrospun surface from reduced graphene oxide doped polyvinyl alcohol/sodium caseinate blends.
11. pH-Responsive Co-Assembled Peptide Hydrogel to Inhibit Drug-Resistant Bacterial Infection and Promote Wound Healing.
12. Bacterial cellulose-based hydrogel with regulated rehydration and enhanced antibacterial activity for wound healing.
13. Metal-based nanoparticles: an alternative treatment for biofilm infection in hard-to-heal wounds.
14. DUAL ACTION ELECTROCHEMICAL BANDAGE OPERATED by a PROGRAMMABLE MULTIMODAL WEARABLE POTENTIOSTAT.
15. Preparation of carboxymethyl chitosan/double-formaldehyde cellulose based hydrogel loaded with ginger essential oil nanoemulsion for meat preservation.
16. Preparation and characterization of chitosan/polyvinyl alcohol antibacterial sponge materials.
17. Biochemical Approach to Poly(Lactide)-Copper Composite-Impact on Blood Coagulation Processes.
18. Automatic in situ short-distance deposition of PLGA/PLLA composite nanofibrous membranes for personalized wound dressings.
19. A Multifunctional Nanozyme Integrating Antioxidant, Antimicrobial and Pro-Vascularity for Skin Wound Management.
20. Three-Dimensional-Printed GelMA-KerMA Composite Patches as an Innovative Platform for Potential Tissue Engineering of Tympanic Membrane Perforations.
21. Film dressings from Thai mango seed kernel extracts versus nanocrystalline silver dressings in antibacterial properties.
22. Antibacterial and antioxidant bifunctional hydrogel based on hyaluronic acid complex MoS(2)-dithiothreitol nanozyme for treatment of infected wounds.
23. Physicochemical, structural and biological characterisation of poly(3-hydroxyoctanoate) supplemented with diclofenac acid conjugates - Harnessing the potential in the construction of materials for skin regeneration processes.
24. Therapeutic effect of ZnO NPs-polyhexanide-hydrogel on Staphylococcus aureus-induced skin wound infection in mice.
25. Preparation, Characterization, and Evaluation of Enzyme Co-Modified Fish Gelatin-Based Antibacterial Derivatives.
26. Preparation of antibacterial hydrogel from poly(aspartic hydrazide) and quaternized N-[3-(dimethylamino) propyl] methylacrylamide copolymer with antioxidant and hemostatic effects for wound repairing.
27. Drug delivery using reduction-responsive hydrogel based on carboxyethyl-succinoglycan with highly improved rheological, antibacterial, and antioxidant properties.
28. Turning Polysaccharides into Injectable and Rapid Self-Healing Antibacterial Hydrogels for Antibacterial Treatment and Bacterial-Infected Wound Healing.
29. High Tensile, Antibacterial, and Conductive Hydrogel Sensor with Multiple Cross-Linked Networks Based on PVA/Sodium Alginate/Zinc Oxide.
30. Photothermal Hydrogel Composites Featuring G4-Carbon Nanomaterial Networks for Staphylococcus aureus Inhibition.
31. Polyvinyl alcohol/chitosan quaternary ammonium salt composite hydrogel with directional macroporous structure for photothermal synergistic antibacterial and wound healing promotion.
32. Highly Efficient Photodynamic Hydrogel with AIE-Active Photosensitizers toward Methicillin-Resistant Staphylococcus aureus Ultrafast Imaging and Killing.
33. Biofilm Inhibition on Medical Devices and Implants Using Carbon Dots: An Updated Review.
34. 3D-printed piezocatalytic hydrogels for effective antibacterial treatment of infected wounds.
35. Accelerated Wound Healing by Electrospun Multifunctional Fibers with Self-Powered Performance.
36. Antioxidant and antibacterial hydrogel formed by protocatechualdehyde-ferric iron complex and aminopolysaccharide for infected wound healing.
37. Sonochemical synthesis of bioinspired graphene oxide - zinc oxide hydrogel for antibacterial painting on biodegradable polylactide film.
38. Poly (vinyl alcohol)/sodium alginate/carboxymethyl chitosan multifunctional hydrogel loading HKUST-1 nanoenzymes for diabetic wound healing.
39. Antimicrobial and Antiviral Nanofibers Halt Co-Infection Spread via Nuclease-Mimicry and Photocatalysis.
40. Micro-environment-triggered chemodynamic treatment for boosting bacteria elimination at low-temperature by synergistic effect of photothermal treatment and nanozyme catalysis.
41. Constructing Interfacial Charge Transfer Channels and Electric Field in Violet Phosphorus-Based van der Waals Heterojunction for Phototherapy of Periodontitis.
42. Light-degradable nanocomposite hydrogels for antibacterial wound dressing applications.
43. Multicomponent Synergistic Antibacterial Hydrogel Based on Gelatin-Oxidized Carboxymethyl Cellulose for Wound Healing of Drug-Resistant Chronic Infection.
44. Evaluation of drug release efficiency and antibacterial property of a pH-responsive dextran-based silver nanocomposite hydrogel.
45. Polydopamine contained hydrogel nanocomposites with combined antimicrobial and antioxidant properties for accelerated wound healing.
46. A Lignin Silver Nanoparticles/Polyvinyl Alcohol/Sodium Alginate Hybrid Hydrogel with Potent Mechanical Properties and Antibacterial Activity.
47. Chitosan-Oxidized Pullulan Hydrogels Loaded with Essential Clove Oil: Synthesis, Characterization, Antioxidant and Antimicrobial Properties.
48. Dual-Delivery Temperature-Sensitive Hydrogel with Antimicrobial and Anti-Inflammatory Brevilin A and Nitric Oxide for Wound Healing in Bacterial Infection.
49. Transpiration-Inspired Fabric Dressing for Acceleration Healing of Wound Infected with Biofilm.
50. Antibacterial and Hemolytic Activity of Antimicrobial Hydrogels Utilizing Immobilized Antimicrobial Peptides.
51. Electrospun Nanofibers Loaded with Marigold Extract Based on PVP/HPβCD and PCL/PVP Scaffolds for Wound Healing Applications.
52. Injectable nanoparticle-crosslinked xyloglucan/ε-poly-l-lysine composite hydrogel with hemostatic, antimicrobial, and angiogenic properties for infected wound healing.
53. CDI crosslinked chitosan/poly (vinyl alcohol) electrospun nanofibers loaded with Achillea millefolium and Viola extract: A promising wound dressing.
54. Protamine-grafted carboxymethyl chitosan based hydrogel with adhesive and long-term antibacterial properties for hemostasis and skin wound healing.
55. Thermosensitive composite based on agarose and chitosan saturated with carbon dioxide. Preliminary study of requirements for production of new CSAG bioink.
56. Hydrogel loaded with thiolated chitosan modified taxifolin liposome promotes osteoblast proliferation and regulates Wnt signaling pathway to repair rat skull defects.
57. A synergistically antimicrobial and antioxidant hyaluronic acid hydrogel for infected wounds.
58. Glycopeptide-based Multifunctional Nanofibrous Hydrogel that Facilitates the Healing of Diabetic Wounds Infected with Methicillin-resistant Staphylococcus aureus.
59. Decellularized periosteum and sodium alginate-based photoresponsive dressing with copper selenide nanoparticles for infected-wound healing in diabetic mice.
60. CQDs-Cross-Linked Conductive Collagen/PAA-Based Nanocomposite Organohydrogel Coupling Flexibility with Multifunctionality for Dual-Modal Sensing of Human Motions.
61. Assessment of the ability of Pseudomonas aeruginosa and Staphylococcus aureus to create biofilms during wound healing in a rat model treated with carboxymethyl cellulose/carboxymethyl chitosan hydrogel containing EDTA.
62. Rapid eradication of vancomycin and methicillin-resistant Staphylococcus aureus by MDP1 antimicrobial peptide coated on photocrosslinkable chitosan hydrogel: in vitro antibacterial and in silico molecular docking studies.

Staphylococcal skin infection

1. Skin dermatoses in the returning traveller; a practical guide.
2. Identification of kinase modulators as host-directed therapeutics against intracellular methicillin-resistant Staphylococcus aureus.
3. Staphylococcus aureus oleate hydratase produces ligands that activate host PPARα.
4. Staphylococcus aureus and Sézary syndrome.
5. Influence of Thermal Treatment on the Composition of Alpinia officinarum Rhizome.
6. Longitudinal antimicrobial susceptibility trends of canine Staphylococcus pseudintermedius.
7. A LAMP point-of-care test to guide antimicrobial choice for treatment of Staphylococcus pseudintermedius pyoderma in dogs.
8. Exploring associations between the teat apex metagenome and Staphylococcus aureus intramammary infections in primiparous cows under organic directives.
9. Dry and liquid formulations of IBT-V02, a novel multi-component toxoid vaccine, are effective against Staphylococcus aureus isolates from low-to-middle income countries.
10. Severe cellulitis from methicillin-resistant Staphylococcus aureus (MRSA) in a couple of preterm twins: a case report.
11. QbD Based Formulation Development and Optimisation of Ozenoxacin Topical Nano-Emulgel and Efficacy Evaluation Using Impetigo Mice Model.
12. Unusual Presentation of Staphylococcal Scalded Skin Syndrome in an Elderly Patient With Acute Kidney Injury: A Case Report.
13. The evaluation of Staphylococcus aureus and Staphylococcus epidermidis in hospital air, their antibiotic resistance and sensitivity of S. aureus to cefoxitin.

Other news of possible interest