**Dermal Literature Review**

**Period: 01/10/2024 – 01/11/2024**

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Scientific Highlights:

Burn wound Infections (infections of or preventing infections)

1. Simultaneous viscoelasticity and sprayability in antimicrobial acetic acid-alginate fluid gels.
2. Pseudomonas aeruginosa kills Staphylococcus aureus in a polyphosphate-dependent manner.
3. Investigating antimicrobial and antioxidant activity of liquid smoke and physical-chemical stability of bacon subjected to liquid smoke and conventional smoking.
4. Nanoemulsion is an effective antimicrobial for methicillin-resistant Staphylococcus aureus in infected swine skin burn wounds.
5. Formulation and characterization of tea tree and jojoba oils nano-emulgel for in-vivo wound healing assessment.
6. Flexible and antibacterial conductive hydrogels based on silk fibroin/polyaniline/AgNPs for motion sensing and wound healing promotion under electrical stimulation.
7. Polyurethane infused with heparin capped silver nanoparticles dressing for wound healing application: Synthesis, characterization and antimicrobial studies.
8. Evaluation of the Feasibility of Using Commercial Wound Coatings as a Carrier Matrix for Bacteriophages.
9. Influence of copper ion cross-linked CMC-PVA film on cell viability and cell proliferation study.
10. Hydrogels Associated with Photodynamic Therapy Have Antimicrobial Effect against Staphylococcus aureus: A Systematic Review.
11. Sepsis-Inducing Leukocytoclastic Vasculitis Resistant to Steroid Therapy: A Case Report.
12. The Effects of Marine Fungal Asterripeptides A-C on In Vitro and In Vivo Staphylococcus aureus Skin Infection.
13. Polysaccharide-Based Injectable Hydrogel Loaded with Quercetin Promotes Scarless Healing of Burn Wounds by Reducing Inflammation.
14. Polylactic acid-based dressing with oxygen generation and enzyme-like activity for accelerating both light-driven biofilm elimination and wound healing.
15. Biological and Biophysical Methods for Evaluation of Inhibitors of Sortase A in Staphylococcus aureus: An Overview.
16. Development of a porcine model of skin and soft-tissue infection caused by Staphylococcus aureus, including methicillin-resistant strains suitable for testing topical antimicrobial agents.

Diabetic Foot Ulcers

1. Systematic review and meta-analysis of the diagnostic accuracy of inflammatory markers for infected diabetic foot ulcer.
2. Impact of the COVID-19 pandemic on patients with peripheral arterial disease in China: a multicenter cross-sectional study.
3. Does the use of DACC-coated dressings improve clinical outcomes for hard to heal wounds: A systematic review.
4. Mechanical Force on Hydrogel Implication on Enhanced Drug Release, Antibacterial, and M2 Macrophage Polarization: New Insights Alleviate Diabetic Wound Healing.
5. Serum Pharmacokinetics and Bone Penetration of Novel Broad-Spectrum Anti-MRSA Agent Levonadifloxacin in Wistar Rats.
6. Recurrence rates after healing in patients with neuroischemic diabetic foot ulcers healed with and without sucrose octasulfate-impregnated dressings: A 1-year comparative prospective study.
7. COX-2 targeted therapy for diabetic foot ulcers using T7-enhanced CS-PVA membranes.
8. Dysbiosis and diabetic foot ulcers: A metabolic perspective of Staphylococcus aureus infection.
9. Intact Fish Skin Graft to Treat Deep Diabetic Foot Ulcers.
10. Does complete resection of infected bone improve clinical outcomes in patients with diabetic foot osteomyelitis?
11. Epidemiological Profile of Chronic Wounds in an Indian Population: A Community-Based Cross-Sectional Observational Study.
12. Clinical effects of different types of flaps selected according to local conditions in the treatment of diabetic foot defects.
13. Combination therapy of negative pressure wound therapy and antibiotic-loaded bone cement for accelerating diabetic foot ulcer healing: A prospective randomised controlled trial.
14. Residual diabetic foot osteomyelitis after surgery leads to poor clinical outcomes: A systematic review and meta-analysis.
15. Efficacy of combined hyperbaric oxygen therapy and topical haemoglobin spray in treating hard-to-heal sloughy wounds.
16. DFUCare: deep learning platform for diabetic foot ulcer detection, analysis, and monitoring.
17. The Microbial Diversity and Antimicrobial Susceptibility Profile Underlying Diabetic Foot Osteomyelitis: A Retrospective Study Conducted in North Queensland, Australia.
18. Interactions between Helcococcus kunzii and Staphylococcus aureus: How a commensal bacterium modulates the virulence and metabolism of a pathogen in a chronic wound in vitro model.
19. Managing drug therapy-related problems and assessment of chronic diabetic wounds.
20. The Value of Pressure Indexes in Predicting the Outcome of Diabetic Foot Ulcers as a Guide to Further Management.
21. Effect of Compound Xuejie Powder combined with negative pressure wound therapy on diabetic foot ulcers and blood flow in the dorsal foot artery.
22. Comparative Study of Single and Coaxial Electrospun Antimicrobial Cross-Linked Scaffolds Enriched with Aloe Vera: Characterization, Antimicrobial Activity, Drug Delivery, Cytotoxicity, and Cell Proliferation on Adipose Stem Cells and Human Skin Fibroblast.
23. Antimicrobial Activity of Cold Atmospheric Plasma on Bacterial Strains Derived from Patients with Diabetic Foot Ulcers.
24. Glucose and pH dual-responsive hydrogels with antibacterial, reactive oxygen species scavenging, and angiogenesis properties for promoting the healing of infected diabetic foot ulcers.
25. NIR-II Image-Guided Wound Healing in Hypoxic Diabetic Foot Ulcers: The Potential of Ergothioneine-Luteolin-Chitin Hydrogels.
26. Targeting Matrix Metalloproteinase-9 for Therapeutic Intervention in Diabetic Foot Ulcers.
27. Prospective Observational Study of Microbiology of Infected Diabetic Foot Ulcers in a Tertiary-Care Hospital.
28. Unusual Verrucous Skin Lesion in Diabetic Neuropathy Following Toe Amputation and Skin Grafting.
29. Genetic identification of methicillin resistant Staphylococcus aureus (MRSA) isolated from diabetic foot ulcers and evaluating the inhibition activity of reuterin against this bacteria.
30. Diabetic Deformities of the Lesser Toes.
31. Assessment of Microvascular Function Based on Flowmotion Monitored by the Flow-Mediated Skin Fluorescence Technique.
32. Machine Learning Algorithm-Aided Determination of Predictors of Mortality from Diabetic Foot Sepsis at a Regional Hospital in South Africa During the COVID-19 Pandemic.
33. Management of Foot Ulcers and Chronic Wounds with Amniotic Membrane in Comorbid Patients: A Successful Experience.
34. Living without pain: A 10-year study of congenital insensitivity to pain with anhidrosis.
35. Multifactorial analysis of risk factors for foot ulcers in patients with neurovascular complications of diabetes.
36. Modelling the cost-effectiveness of a chloramine gel in treating infected, non-healing diabetic foot ulcers.
37. Large Spontaneous Subcutaneous Abscess Formation due to Finegoldia magna in a Diabetic Patient: A Case Report.
38. Efficacy of Cytoreg in the treatment of diabetic foot disease.

Venous Leg Ulcers

1. An open label, single-centric, post market clinical study to evaluate the safety and efficacy of a new antimicrobial wound dressing (VELVERT) as an adjuvant therapy in the treatment of venous leg ulcer.
2. Clinical efficacy and safety of a silver ion-releasing foam dressing on hard-to-heal wounds: a meta-analysis.
3. Multi-drug resistant Staphylococcus epidermidis from chronic wounds impair healing in human wound model.

Dermal Biofilms

1. Insights into the bioactive potential of the Amazonian species Acmella oleracea leaves extract: a focus on wound healing applications.
2. Harlequin Ichthyosis Nanobubble Hydrotherapy: A Breakthrough in Treatment.
3. Multimodal antibacterial potency of newly designed and synthesized Schiff's/Mannich based coumarin derivatives: potential inhibitors of bacterial DNA gyrase and biofilm production.
4. Structure and function of skin barrier lipids: Effects of hydration and natural moisturizers in vitro.
5. A greener side of health care: Revisiting phytomedicine against the human fungal pathogen Malassezia.
6. Molecular characterization and genotype of multi-drug resistant Staphylococcus epidermidis in nasal carriage of young population, Mahasarakham, Thailand.
7. Staphylococcus aureus colonizing the skin microbiota of adults with severe atopic dermatitis exhibits genomic diversity and convergence in biofilm traits.
8. Indwelling urological device biofilm composition and characteristics in the presence and absence of infection.
9. Staphylococcus pseudintermedius ST2660 isolated from a cat has strong biofilm-forming ability and increases biofilm formation at cat's normal body temperature.
10. Riboflavin for women's health and emerging microbiome strategies.
11. The chronic wound characterisation study and biobank: a study protocol for a prospective observational cohort investigation of bacterial community composition, inflammatory responses and wound-healing trajectories in non-healing wounds.
12. Transcriptomic Analysis of the Effect of Glabridin on Biofilm Formation in Staphylococcus Aureus.
13. Antibiotic biocompatibility assay and anti-biofilm strategies for Pseudomonas aeruginosa infection in bioengineered artificial skin substitutes.
14. The emergence of multidrug-resistant Proteus vulgaris infection in cage reared Pangasianodon hypophthalmus: molecular characterization and host-pathogen response.
15. Bioengineering of glucan coated silver nanoparticles as dynamic biomedical compound; in vitro and in vivo studies.
16. Editor's highlights - November, 2024.
17. Effects of aminolevulinic acid photodynamic therapy combined with antibiotics on Mycobacterium abscessus skin infections: an in vitro and in vivo study.
18. The Candida auris Hog1 MAP kinase is essential for the colonization of murine skin and intradermal persistence.
19. In-vitro anti-acne activity of Teucrium oliverianum methanolic extract against Cutibacterium acnes.
20. [Mechanism of cold atmospheric plasma in treatment of chronic skin ulcer].
21. In Vitro Antibacterial and Antibiofilm Activities of Piper betle L. Ethanolic Leaf Extract on Staphylococcus aureus ATCC 29213.
22. Managing Complicated Nontuberculous Mycobacteria Infections in Plastic Surgery.
23. Biofilm Microenvironment-Sensitive Anti-Virulent and Immunomodulatory Nano-on-Nanodroplets to Combat Refractory Biofilm Infection Through Toxin Neutralization and Phagocytosis.
24. RF pulsed plasma modified composite scaffold for enhanced anti-microbial activity and accelerated wound healing.
25. Isolation and Antibiofilm Activity of Bacteriophages against Cutibacterium acnes from Patients with Periprosthetic Joint Infection.
26. Antibiofilm and Antimicrobial Potentials of Novel Synthesized Sulfur Camphor Derivatives.
27. The regulatory T cell-selective interleukin-2 receptor agonist rezpegaldesleukin in the treatment of inflammatory skin diseases: two randomized, double-blind, placebo-controlled phase 1b trials.
28. Case Report: Pan-Drug Resistant Pseudomonas aeruginosa from a Child with an Infected Burn Wound at the University Teaching Hospital of Kigali, Rwanda.
29. Polydopamine-Mediated Antimicrobial Lipopeptide Surface Coating for Medical Devices.
30. Effect of novel non-coding small RNA111 of Pseudomonas aeruginosa on bacterial virulence.
31. Microemulsion-based topical hydrogels containing lemongrass leaf essential oil (Cymbopogon citratus (DC.) Stapf) and mango seed kernel extract (Mangifera indica Linn) for acne treatment: Preparation and in-vitro evaluations.
32. A wearable and stretchable dual-wavelength LED device for home care of chronic infected wounds.

Atopic Dermatitis & SA

1. A Consensus on Staphylococcus aureus Exacerbated Atopic Dermatitis and the Need for a Novel Treatment.
2. Mild atopic dermatitis is characterized by increase in non-staphylococcus pathobionts and loss of specific species.
3. Berberine Inhibits the Inflammatory Response Induced by Staphylococcus aureus Isolated from Atopic Eczema Patients via the TNF-α/Inflammation/RAGE Pathways.
4. TMT-proteomics reveals the therapeutic effects of Lianling decoction against atopic dermatitis through Staphylococcus aureus infection.
5. Mulberry's Healing Touch: Exploring Ethnobotanical Roots and Medicinal Potentials in the Treatment of Atopic Dermatitis.
6. Phenotypes of 126 Moroccan HIES patients according to NIH Score.

Dermal Fungal

1. Treatment Outcomes of Single-Dose Liposomal Amphotericin B-Treated Visceral Leishmaniasis Patients and Factors Affecting Outcome in Bihar, India.
2. Evaluation of bacteriophages for the alleviation of potential bacterial contamination risks in developmental engineering.
3. Quaternized Curcumin Derivative-Synthesis, Physicochemical Characteristics, and Photocytotoxicity, Including Antibacterial Activity after Irradiation with Blue Light.
4. EPHB4-RASA1 Inhibition of PIEZO1 Ras Activation Drives Lymphatic Valvulogenesis.
5. Oral Administration of Taurodeoxycholate, A GPCR19 Agonist, Effectively Ameliorates Atopic Dermatitis in A Mouse Model.
6. Curcumin-Loaded Nanocomposite Hydrogel Dressings for Promoting Infected Wound Healing and Tissue Regeneration.
7. Experimental infection of ringtail possums (Pseudocheirus peregrinus) with Mycobacterium ulcerans, the agent of Buruli ulcer.
8. Detection of Ophidiomyces and Nannizziopsis spp. in the dermal lesions of free roaming native snakes in Taiwan.
9. Electrically-driven drug delivery into deep cutaneous tissue by conductive microneedles for fungal infection eradication and protective immunity.
10. Increased splicing of CXCR3 isoform B (CXCR3B) by impaired NRF2 signaling leads to melanocyte apoptosis in active vitiligo.
11. No Difference in Prognosis between Atypical Intradermal Smooth Muscle Neoplasms and Dermal Leiomyosarcoma: Local Recurrence, Metastasis, and Overall Survival in a Nationwide Cohort of 423 Patients.

Competitors

1. Three-dimensional printed polyelectrolyte construct containing mupirocin-loaded quaternized chitosan nanoparticles for skin repair.
2. Preliminary in vivo investigation of the mesenchymal stromal cell secretome as a novel treatment for methicillin-resistant Staphylococcus aureus in equine skin wounds.
3. Molecular diversity in fusidic acid-resistant Methicillin Susceptible Staphylococcus aureus.
4. Characterization of Staphylococcus aureus isolated from milk samples for their virulence, biofilm, and antimicrobial resistance.
5. Cutaneous Manifestations of Langerhans Cell Histiocytosis in Pediatric Age: A Case Report.

Dressings

1. Photoresponsive Hydrogel Dressing Containing Nanoparticles with Excellent Synergetic Photodynamic, Photothermal, and Chemodynamic Therapies for Effective Infected Wound Healing.
2. Oral delivery of Sunitinib malate using carboxymethyl cellulose/poly(acrylic acid-itaconic acid)/Cloisite 30B nanocomposite hydrogel as a pH-responsive carrier.
3. 3D Printing of Biocompatible and Antibacterial Silica-Silk-Chitosan-Based Hybrid Aerogel Scaffolds Loaded with Propolis.
4. A Janus Adhesive Hydrogel with Integrated Attack and Defense for Bacteria Killing and Antifouling.
5. Injectable Hydrogel With Glycyrrhizic Acid and Asiaticoside-Loaded Liposomes for Wound Healing.
6. Antimicrobial effects of a multimodal wound matrix against methicillin-resistant Staphylococcus aureus and Pseudomonas aeruginosa in an in vitro and an in vivo porcine wound model.
7. Crosslinking gelatin with robust inherent antibacterial natural polymer for wound healing.
8. Poly (lactic acid) electrospun nanofiber membranes: Advanced characterization for biomedical applications with drug loading performance studies.
9. Carboxymethyl chitosan nanoparticle-modulated cationic hydrogels doped with copper ions for combating bacteria and facilitating wound healing.
10. H(2)O(2) Self-Supplied MoS(2)/CaO(2) Nanozyme Hydrogel with Near-Infrared Photothermal Synergetic Cascade Peroxidase-Like Activity for Wound Disinfection.
11. Double Enzyme Active Hydrogel Program Regulates the Microenvironment of Staphylococcus aureus-Infected Pressure Ulcers.
12. Semi-Interpenetrating Hydrogel with Long-Term Intrinsic Antibacterial Properties Promotes Healing of Infected Wounds In Vivo.
13. The influence of maggot debridement therapy on the bacterial flora of hard-to-heal wounds.
14. Dynamic polysaccharide/platelet-rich plasma hydrogels with synergistic antibacterial activities for accelerating infected wound healing.
15. Electrically conductive and antimicrobial Pluronic-based hydrogels.
16. Enhancing refrigerated chicken breasts preservation: Novel composite hydrogels incorporated with antimicrobial peptides, bacterial cellulose, and polyvinyl alcohol.
17. Preparation of biocompatible Zein/Gelatin/Chitosan/PVA based nanofibers loaded with vitamin E-TPGS via dual-opposite electrospinning method.
18. A Multifunctional Self-Reinforced Injectable Hydrogel for Enhancing Repair of Infected Bone Defects by Simultaneously Targeting Macrophages, Bacteria, and Bone Marrow Stromal Cells.
19. Photothermal-Induced Multimodal Antibacterial Dressing Comprising N-Halamine Hydrogel Loaded with Cow Dung Biochar for Infected Wound Healing.
20. Silk fibroin/chitosan thiourea hydrogel scaffold with vancomycin and quercetin-loaded PLGA nanoparticles for treating chronic MRSA osteomyelitis in rats.
21. Vat Photopolymerization 3D Printing of Hydrogels Embedding Metal-Organic Frameworks for Photodynamic Antimicrobial Therapy.
22. Designing injectable dermal matrix hydrogel combined with silver nanoparticles for methicillin-resistant Staphylococcus aureus infected wounds healing.
23. Natural polysaccharide hydrogel with bioadhesion characters to synergistically enhance berberine's antibacterial effect by regulating the PTS system of Staphylococcus aureus.
24. Injectable hydrogel microsphere-bomb for MRSA-infected chronic osteomyelitis.
25. Engineering Cyborg Pathogens through Intracellular Hydrogelation.
26. Icariin-loaded chitosan/β-glycerophosphate thermosensitive hydrogel enhanced infection control and bone regeneration in canine with infectious bone defects.
27. Design and Characterization of an Antimicrobial Biocomposite for Wound Dressings.
28. Copper Nanoparticle Loaded Electrospun Patches for Infected Wound Treatment: From Development to In-Vivo Application.
29. Composite Hydrogels with Rapid Self-Healing, Stretchable, Moldable and Antibacterial Properties Based on PVA/ε-Poly-l-lysine/Hyaluronic Acid.
30. An Andrias davidianus derived composite hydrogel with enhanced antibacterial and bone repair properties for osteomyelitis treatment.
31. Edible thermosensitive chitosan/hydroxypropyl β-cyclodextrin hydrogel with natural licoricidin for enhancing oral health: Biofilm disruption and demineralization prevention.
32. Ag quantum dots doped poly (vinyl alcohol)/chitosan hydrogel coatings to prevent catheter-associated urinary tract infections.
33. In Vitro Assessment of Gallium Nanoalloy Hydrogels for Antimicrobial and Wound Healing Applications.
34. Recombinant Keratin-Chitosan Cryogel Decorated with Gallic Acid-Reduced Silver Nanoparticles for Wound Healing.
35. Preoperative, Intraoperative & Postoperative Concepts to Prevent Infection for Unicompartmental Knee Arthroplasty.
36. Water-soluble polysaccharides extracted from Enteromorpha prolifera/PVA composite film functionalized as ε-polylysine with improved mechanical and antibacterial properties.
37. Fabrication of injectable, adhesive, self-healing, superabsorbent hydrogels based on quaternary ammonium chitosan and oxidized pullulan.
38. A multi-purpose dressing based on resveratrol-loaded ionic liquids/gelatin methacryloyl hydrogel for enhancing diabetic wound healing.
39. Encapsulation of the PHMB with nanoliposome and attachment to wound dressing for long-term antibacterial activity and biocompatibility.
40. Shear-Thinning Extrudable Hydrogels Based on Star Polypeptides with Antimicrobial Properties.
41. Photopolymerization of Chlorpromazine-Loaded Gelatin Methacryloyl Hydrogels: Characterization and Antimicrobial Applications.
42. Assessment of the Antibiofilm Performance of Silver-Containing Wound Dressings: A Dual-Species Biofilm Model.
43. Caffeic acid-mediated photodynamic multifunctional hyaluronic acid-gallic acid hydrogels with instant and enduring bactericidal potency accelerate bacterial infected wound healing.
44. MOF-Enhanced Phototherapeutic Wound Dressings Against Drug-Resistant Bacteria.
45. Hydrogel Containing Propolis: Physical Characterization and Evaluation of Biological Activities for Potential Use in the Treatment of Skin Lesions.
46. Fabrication and Properties of Hydrogel Dressings Based on Genipin Crosslinked Chondroitin Sulfate and Chitosan.
47. Gallic acid functionalized silk fibroin/gelatin composite wound dressing for enhanced wound healing.
48. 3D printed personalized wound dressings using a hydrophobic deep eutectic solvent (HDES)-formulated emulgel.
49. Antibacterial properties enhancement tropical fruit waste biopolymer hydrogel loaded Nephelium Lappaceum leaf extract for sanitizing applications.
50. Multifunctional SEBS/AgNWs Nanocomposite Films with Antimicrobial, Antioxidant, and Anti-Inflammatory Properties Promote Infected Wound Healing.
51. Construction and Performance Study of an Injectable Dual-Network Hydrogel Dressing with Inherent Drainage Function.

Staphylococcal skin infection

1. Role of Xpert PCR kit in assessing MRSA colonization in medical and surgical units of a tertiary care teaching hospital.
2. Penicillin susceptibility among Staphylococcus aureus skin and soft tissue infections at a children's hospital.
3. A new antibacterial with anti-inflammatory properties promotes wound healing through inhibiting cGAS/STING/NF-κB/IRF3 pathway.
4. Understanding host's response to staphylococcal scalded skin syndrome.
5. Trimodal skin health programme for childhood impetigo control in remote Western Australia (SToP): a cluster randomised, stepped-wedge trial.
6. Lactobacillus rhamnosus GG and Bifidobacterium animalis subsp. lactis BB-12 promote infected wound healing via regulation of the wound microenvironment.
7. The Staphylococcus aureus-antagonizing human nasal commensal Staphylococcus lugdunensis depends on siderophore piracy.
8. The Opportunistic Pathogen Staphylococcus warneri: Virulence and Antibiotic Resistance, Clinical Features, Association with Orthopedic Implants and Other Medical Devices, and a Glance at Industrial Applications.
9. Pulmonary manifestations in hyper IgE syndrome: A case series and review of Indian literature.
10. Monocyte-regulated interleukin 12 production drives clearance of Staphylococcus aureus.
11. Rational computational design and development of an immunogenic multiepitope vaccine incorporating transmembrane proteins of Staphylococcus lugdunensis.
12. Peptide Cy (RL-QN15) accelerates hair regeneration in diabetic mice by binding to the Frizzled-7 receptor.

Other news of possible interest