**Dermal Literature Review**

**Period: 01/02/2024 – 01/03/2024**

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Scientific Highlights:

Burn wound Infections (infections of or preventing infections)

1. Conductive hydrogels based on tragacanth and silk fibroin containing dopamine functionalized carboxyl-capped aniline pentamer: Merging hemostasis, antibacterial, and anti-oxidant properties into a multifunctional hydrogel for burn wound healing.
2. Development of Mupirocin-Impregnated Bacterial Cellulosic Transdermal Patches for the Management of Skin Infection.
3. Hyaluronidase-Responsive Bactericidal Cryogel for Promoting Healing of Infected Wounds: Inflammatory Attenuation, ROS Scavenging, and Immune Regulation.
4. Development of propolis, hyaluronic acid, and vitamin K nano-emulsion for the treatment of second-degree burns in albino rats.
5. Characteristics, antimicrobial capacity, and antioxidant potential of electrospun zein/polyvinyl alcohol nanofibers containing thymoquinone and electrosprayed resveratrol nanoparticles.
6. Prevalence and antibiogram of Pseudomonas aeruginosa and Staphylococcus aureus clinical isolates from burns and wounds in Duhok City, Iraq.
7. Bakuchiol nanoemulsion loaded electrospun nanofibers for the treatment of burn wounds.
8. [Effects of cerium oxide nanoenzyme-gelatin methacrylate anhydride hydrogel in the repair of infected full-thickness skin defect wounds in mice].

Diabetic Foot Ulcers

1. Current knowledge of morbidities and direct costs related to diabetic foot disorders: a literature review.
2. Evaluation of the healing potential of short-term ozone therapy for the treatment of diabetic foot ulcers.
3. Inflammatory markers in diabetic foot infection: a meta-analysis.
4. Programmed microalgae-gel promotes chronic wound healing in diabetes.
5. Efficacy and pharmacoeconomic advantages of Fufang Huangbai Fluid hydropathic compress in diabetic foot infections: a comparative clinical study with antimicrobial calcium alginate wound dressing.
6. Comparison of different concentrations of chlorhexidine-iodophor composite solution on human skin fibroblasts.
7. Treatment of clinically uninfected diabetic foot ulcers, with and without antibiotics.
8. Updated Scenario on Negative Pressure Wound Therapy.
9. The Global Prevalence of Methicillin-Resistant Staphylococcus Aureus in Patients with Diabetic Foot Ulcers: A Systematic Review and Meta-Analysis.
10. In vitro inhibition of biofilm and virulence factor production in azole-resistant strains of Candida albicans isolated from diabetic foot by Artemisia vulgaris stabilized tin (IV) oxide nanoparticles.
11. Lytic activity of phages against bacterial pathogens infecting diabetic foot ulcers.
12. Wound, Ischemia, Foot Infection (Wifi) Classification System And Its Predictive Ability Concerning Amputation-Free Survival, Mortality And Major Limb Amputation In A Portuguese Population: A Single Center Experience.
13. Study of Electrospun Membranes Composed of PCL and Tilapia-Skin Collagen with Tetracycline or Chloramphenicol in Contact with Human Skin Fibroblasts for Wound Dressing Treatment.
14. Bartter syndrome-like phenotype in a patient with type 2 diabetes mellitus.
15. Commonly associated aerobic microbial pathogens and their antibiotic susceptibility profile in diabetic foot ulcers in tertiary care centre in Western Maharashtra.
16. Awareness of Diabetic Patients in the Qassim Region About Diabetic Foot and Its Complications.
17. Epidemiology of Pseudomonas aeruginosa in diabetic foot infections: a global systematic review and meta-analysis.
18. Chemical constituents from Agave applanata and its anti-hyperglycemic, anti-inflammatory and antimicrobial activities associated to its tissue repair capability.
19. Antimicrobial and Anti-Biofilm Activities of Coffea arabica L. Against the Clinical Strains Isolated From Diabetic Foot Ulcers.
20. Are Biodegradable Calcium Sulfate Antibiotic Beads Effective and Safe Adjuvants for Diabetic Foot Osteomyelitis?
21. Enhancing diabetic wound healing: advances in electrospun scaffolds from pathogenesis to therapeutic applications.
22. Effectiveness and safety of dermal matrix used for diabetic foot ulcer: a systematic review and meta-analysis of randomized controlled trials.
23. Effectiveness of Ya-Samarn-Phlae in diabetic wound healing: Evidence from in vitro studies and a multicenter randomized controlled clinical trial.
24. Bacteriophage Therapy and Current Delivery Strategies for Orthopedic Infections: A SCOPING Review.
25. Studying Microbial Ecology of Diabetic Foot Infections: Significance of PCR Analysis for Prudent Antimicrobial Stewardship.
26. The efficacy and safety of non-surgical treatment of diabetic foot wound infections and ulcers: A systemic review and meta-analysis.
27. Fibroblasts in Diabetic Foot Ulcers.
28. The Differentiation Between Infection and Acute Charcot.
29. Methicillin-Resistant Staphylococcus aureus Cellulitis Causing Meningitis From Hematogenous Dissemination: A Case Report.
30. Sleep quality and its associated factors among patients with type 2 diabetes mellitus in Hunan, China: a cross-sectional study.
31. Implication of Low Plasma Arginine among Patients with Diabetic Foot Ulcer (DFU).
32. Exploring the phytoconstituents, antimicrobial potency, and cytotoxic effects of essential oil from Origanum punonense from Palestine.
33. Population pharmacokinetic rationale for intravenous contezolid acefosamil followed by oral contezolid dosage regimens.
34. Promising Phytoconstituents in Diabetes-related Wounds: Mechanistic Insights and Implications.
35. MRSA infection, re-infection and clinical outcomes in diabetic foot infections.

Venous Leg Ulcers

1. A double-blind trial comparing an antimicrobial combination to standard care in hard-to-heal wounds.
2. Efficacy and safety of platelet-rich plasma in the treatment of venous ulcers: A systematic review and meta-analysis of randomized controlled trials.
3. The Potential of Bacteriophage Therapy as an Alternative Treatment Approach for Antibiotic-Resistant Infections.

Dermal Biofilms

1. Traditional Herb (Moxa) Modified Zinc Oxide Nanosheets for Quick, Efficient and High Tissue Penetration Therapy of Fungal Infection.
2. Staphylococcus aureus biofilm: Formulation, regulatory, and emerging natural products-derived therapeutics.
3. Interaction between Sophorolipids and β-glucan in Aqueous Solutions.
4. Tetraclinis articulata (Vahl) Mast.: Volatile constituents, antioxidant, antidiabetic and wound healing activities of its essential oil.
5. Antimicrobial and anti-biofilm activity of a thiazolidinone derivative against Staphylococcus aureus in vitro and in vivo.
6. Virulence determinants and antibiotic resistance in staphylococci isolated from the skin of captive bred reptiles.
7. The role of human extracellular matrix proteins in defining Staphylococcus aureus biofilm infections.
8. Topical delivery of insulin using novel organogel formulations: An approach for the management of diabetic wounds.
9. Cytotoxic Polyhydroxy-Isoprenoids from Neodidymelliopsis negundinis.
10. In Vitro and In Vivo Anti-Candida albicans Activity of a Scorpion-Derived Peptide.
11. Resistome, mobilome, and virulome explored in clinical isolates derived from acne patients in Egypt: unveiling unique traits of an emerging coagulase-negative Staphylococcus pathogen.
12. Clinical and microbiological features of host-bacterial interplay in chronic venous ulcers versus other types of chronic skin ulcers.
13. Impurities in Hyaluronic Acid Dermal Fillers? A Narrative Review on Nonanimal Cross-Linked Fillers.
14. Insights into the physico-chemical and biological characterization of sodium lignosulfonate - silver nanosystems designed for wound management.
15. Skin and hard surface disinfection against Candida auris - What we know today.
16. Bacterial Biofilm in Chronic Wounds and Possible Therapeutic Approaches.
17. Human Milk-Derived Enterococcus faecalis HM20: A Potential Alternative Agent of Antimicrobial Effect against Methicillin-Resistant Staphylococcus aureus (MRSA).
18. Investigation of Staphylococcus aureus Biofilm-Associated Toxin as a Potential Squamous Cell Carcinoma Therapeutic.
19. Sebum Components Dampen the Efficacy of Skin Disinfectants against Cutibacterium acnes Biofilms.
20. Inhibition of Biofilm Formation in Cutibacterium acnes, Staphylococcus aureus, and Candida albicans by the Phytopigment Shikonin.
21. Biofilm Microenvironment Activated Antibiotic Adjuvant for Implant-Associated Infections by Systematic Iron Metabolism Interference.
22. Effect of Potassium Permanganate on Staphylococcal Isolates Derived from the Skin of Patients with Atopic Dermatitis.
23. Transdermal administration of farnesol-ethosomes enhances the treatment of cutaneous candidiasis induced by Candida albicans in mice.
24. An exploration of mechanisms underlying Desemzia incerta colonization resistance to methicillin-resistant Staphylococcus aureus on the skin.
25. Antibacterial and antibiofilm potentials of Rumex dentatus root extract characterized by HPLC-ESI-Q-TOF-MS.

Atopic Dermatitis & SA

1. The skin microbiome in pediatric atopic dermatitis and food allergy.
2. Levofloxacin susceptibility of Staphylococci from conjunctiva in patients with atopic dermatitis.
3. Staphylococcus aureus exacerbates dermal IL-33-ILC2 axis activation through evoking RIPK3/MLKL-mediated necroptosis of dry skin.
4. Co-occurrence network analysis reveals the alterations of the skin microbiome and metabolome in adults with mild to moderate atopic dermatitis.
5. Bleach suit for atopic dermatitis.
6. Constant Vigilance! Managing Threats to the Skin Barrier.
7. Association Between Staphylococcus Aureus Colonization and Pediatric Atopic Dermatitis: A Systematic Review and Meta-Analysis.
8. Microbiome: Role in Inflammatory Skin Diseases.
9. Melatonin restores DNFB-induced dysbiosis of skin microbiota in a mouse model of atopic dermatitis.
10. Prospective Randomized Double-Blind Vehicle-Controlled Study of Topical Coconut and Sunflower Seed Oil-Derived Isosorbide Diesters on Atopic Dermatitis.
11. A Staphylococcus epidermidis strain inhibits the uptake of Staphylococcus aureus derived from atopic dermatitis skin into the keratinocytes.
12. Nanotopology-Enabled On-Site Pathogen Detection for Managing Atopic Dermatitis.

Dermal Fungal

1. Hydroxypyridone anti-fungals selectively induce myofibroblast apoptosis in an in vitro model of hypertrophic scars.
2. Significant Variations in Double-Stranded RNA Levels in Cultured Skin Cells.
3. The Potential of PIP3 in Enhancing Wound Healing.
4. A Glance into the Destiny of Transcriptomic Activity, Embodied by the HOX Genes, in Neonatal and Aging Dermal Cells.
5. Portable smartphone-based molecular test for rapid detection of Leishmania spp.
6. The association between rare complications and the use of acellular dermal matrix in patients undergoing implant-based breast reconstruction.
7. Antiseptic, Hemostatic, and Wound Activity of Poly(vinylpyrrolidone)-Iodine Gel with Trimethyl Chitosan.
8. Disseminated Aspergillus citrinoterreus and concurrent localized dermal phaeohyphomycosis in an immunosuppressed dog.
9. Resveratrol Shows Potent Senescence Reversal in Experimental Cellular Models of Particular Matter 2.5-induced Cellular Senescence in Human Dermal Papilla Cells.
10. Effects of ophidiomycosis on movement, survival, and reproduction of eastern foxsnakes (Pantherophis vulpinus).

Competitors

1. Carriage of methicillin-resistant Staphylococcus aureus in children <6 years old: a retrospective follow-up study of the natural course and effectiveness of decolonization treatment.
2. Impact of active surveillance and decolonization strategies for methicillin-resistant Staphylococcus aureus in a neonatal intensive care unit.
3. Effect of Different Local Antibiotic Regimens on Prevention of Postoperative Infection in Clean Surgical Wounds: A Systematic Review and Network Meta-analysis.
4. Improving Compliance with Preoperative Nasal Povidone-Iodine to Prevent Surgical Site Infection in Vascular and Neurosurgery Services in a Community Teaching Hospital.

Dressings

1. Antimicrobial Nonisocyanate Polyurethane Foam Derived from Lignin for Wound Healing.
2. Injectable and self-healable nano-architectured hydrogel for NIR-light responsive chemo- and photothermal bacterial eradication.
3. Controlled Sr(ii) ion release from in situ crosslinking electroactive hydrogels with potential for the treatment of infections.
4. Collagen Scaffolds Functionalized by Cu(2+) -chelated Egcg Nanoparticles with Anti-Inflammatory, Anti-Oxidation, Vascularization And Anti-Bacterial Activities for Accelerating Wound Healing.
5. Effective wound healing on diabetic mice by adhesive antibacterial GNPs-lysine composited hydrogel.
6. Cowberry extract loaded chitosan hydrogel with photothermal and antioxidant properties promotes infected wound healing.
7. Living Antimicrobial Wound Dressings: Using Probiotic-Loaded, Alginate Nanofibers for Protection against Methicillin-Resistant Staphylococcus aureus.
8. Peptidomic analysis of endogenous and bacterial protease activity in human plasma and wound fluids.
9. Accelerating the remodeling of collagen in cutaneous full-thickness wound using FIR soldering technology with bio-targeting nanocomposites hydrogel.
10. Synthesis and Characterization of Cassava Gum Hydrogel Associated with Chlorhexidine and Evaluation of Release and Antimicrobial Activity.
11. Innovative Electrospun Nanofiber Mats Based on Polylactic Acid Composited with Silver Nanoparticles for Medical Applications.
12. PAA-PU Janus Hydrogels Stabilized by JANUS Particles and its Interfacial Performance During Hemostatic Processing.
13. Dopamine-grafted oxidized hyaluronic acid/gelatin/cordycepin nanofiber membranes modulate the TLR4/NF-kB signaling pathway to promote diabetic wound healing.
14. Silver nanoparticle reinforced polylactic acid and gelatin composite films for advanced wound dressing.
15. Neutrophil Granulopoiesis optimized through Ex vivo Expansion of Hematopoietic Progenitors in Engineered 3D Gelatin Methacrylate Hydrogels.
16. Multi-functional bandage - bioactive glass/metal oxides/alginate composites based regenerative membrane facilitating re-epithelialization in diabetic wounds with sustained drug delivery and anti-bactericidal efficacy.
17. Inhibition of biofouling by in-situ grown zwitterionic hydrogel nanolayer on membrane surface in ultralow-pressurized ultrafiltration process.
18. Diabetic wound healing function of PCL/cellulose acetate nanofiber engineered with chitosan/cerium oxide nanoparticles.
19. Garlic-Derived Exosome-like Nanovesicles-Based Wound Dressing for Staphylococcus aureus Infection Visualization and Treatment.
20. Nanofibers of N,N,N-trimethyl chitosan capped bimetallic nanoparticles: Preparation, characterization, wound dressing and in-vivo treatment of MDR microbial infection and tracking by optical and photoacoustic imaging.
21. Cannabidiol-loaded microparticles embedded in a porous hydrogel matrix for biomedical applications.
22. Development, characterisation and evaluation of a simple polymicrobial colony biofilm model for testing of antimicrobial wound dressings.
23. Hydrogels based on lignin extracted from cashew apple bagasse and its application in antimicrobial wound dressings.
24. Gelatin/O-carboxymethyl chitosan injectable self-healing hydrogels for ibuprofen and naproxen dual release.
25. Amikacin sulphate loaded chitosan-diopside nanoparticles composite scaffold for infectious wound healing.
26. Nitric oxide-releasing multifunctional catechol-modified chitosan/oxidized dextran hydrogel with antibacterial, antioxidant, and pro-angiogenic properties for MRSA-infected diabetic wound healing.
27. Wearable Magnetoelectric Stimulation for Chronic Wound Healing by Electrospun CoFe(2)O(4)@CTAB/PVDF Dressings.
28. Fabrication of Bilayer Nanofibrous-Hydrogel Scaffold from Bacterial Cellulose, PVA, and Gelatin as Advanced Dressing for Wound Healing and Soft Tissue Engineering.
29. Mussel-inspired near-infrared light-responsive gelatin-based hydrogels for enhancing MRSA-infected wound healing.
30. Polymer-clay nanofibrous wound dressing materials containing different boron compounds.
31. A Nanocomposite Dynamic Covalent Cross-Linked Hydrogel Loaded with Fusidic Acid for Treating Antibiotic-Resistant Infected Wounds.
32. Carbopol 940-based hydrogels loading synergistic combination of quercetin and luteolin from the herb Euphorbia humifusa to promote Staphylococcus aureus infected wound healing.
33. PVA-Based Films with Strontium Titanate Nanoparticles Dedicated to Wound Dressing Application.
34. Effects of Synthesis Parameters on Structure and Antimicrobial Properties of Bacterial Cellulose/Hydroxyapatite/TiO(2) Polymer-Ceramic Composite Material.
35. Enhancing Chitosan Fibers: A Dual Approach with Tripolyphosphate and Ursolic Acid.
36. Photodynamic Antibacterial Therapy of Gallic Acid-Derived Carbon-Based Nanoparticles (GACNPs): Synthesis, Characterization, and Hydrogel Formulation.
37. Synthesis of Starch-Based Ag(2)[Fe (CN)(5)NO] Nanoparticles for Utilization in Antibacterial and Wound-Dressing Applications.
38. Antimicrobial Potency of Fmoc-Phe-Phe Dipeptide Hydrogels with Encapsulated Porphyrin Chromophores Is a Promising Alternative in Antimicrobial Resistance.
39. A Versatile Chitosan-based Hydrogel Accelerates Infected Wound Healing via Bacterial Elimination, Antioxidation, Immunoregulation, and Angiogenesis.
40. Hydrogels Containing Chitosan-Modified Gold Nanoparticles Show Significant Efficacy in Healing Diabetic Wounds Infected with Antibiotic-Resistant Bacteria.
41. The Biologically Active Biopolymer Silk: The Antibacterial Effects of Solubilized Bombyx mori Silk Fibroin with Common Wound Pathogens.
42. Oxidized alginate-gelatin (ADA-GEL)/silk fibroin/Cu-Ag doped mesoporous bioactive glass nanoparticle-based hydrogels for potential wound care treatments.
43. Herbal Products-powered Thermosensitive Hydrogel with Phototherapy and Microenvironment Reconstruction for Accelerating Multidrug-resistant Bacteria-infected Wound Healing.
44. A Method Based on a Modified Fluorescence In Situ Hybridization (FISH) Approach for the Sensing of Staphylococcus aureus from Nasal Samples.

Guidelines

1. The skin microbiome in pediatric atopic dermatitis and food allergy.
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Other news of possible interest