**Dermal Literature Review**

**Period: 01/11/2024 – 01/12/2024**

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Scientific Highlights:

Burn wound Infections (infections of or preventing infections)

1. Successful control of an outbreak of Panton-Valentine leucocidin positive meticillin resistant Staphylococcus aureus in a National Burns Unit through early detection by whole genome sequencing.
2. Polyhexamethylene biguanidine coated silver nanoparticles embedded into chitosan thiourea/PVA nanofibers as wound healing mats: In vitro and in vivo studies.
3. Bimetallic oxide Cu-Fe(3)O(4) nanoclusters with multiple enzymatic activities for wound infection treatment and wound healing.
4. Innovative biopolymers composite based thin film for wound healing applications.
5. In situ forming Hydrogel with adding ZnO Nano-particle for effectively methicillin-resistant Staphylococcus aureus infected frostbite injury.
6. Skin microbiome dynamics in patients with polymorphic light eruption in response to UV radiations.
7. Innovative engineering of scalable, renewable and spherical organic nanoparticles for high fire safety, UV protection and antibacterial properties of polyvinyl alcohol nanocomposites films.
8. Co-delivery of antimicrobial peptide and Prussian blue nanoparticles by chitosan/polyvinyl alcohol hydrogels.
9. 'The Law of Unintended Consequences' - Staphylococcus aureus bloodstream infection complicating peripheral intravascular cannulation in an epilepsy monitoring unit.
10. A 10-year Retrospective Review of Patient-to-Patient Transmitted Pathogens in Culture-Positive Burn Wounds at a Tertiary Burn Center.
11. Prevalence and clonal lineages of biofilm-producing Staphylococcus aureus from clinical samples and healthcare workers at Ahmadu Bello University Teaching Hospital, Nigeria.
12. A multifunctional electronic dressing with textile-like structure for wound pressure monitoring and treatment.

Diabetic Foot Ulcers

1. Neutrophil Migration is a Crucial Factor in Wound Healing and the Pathogenesis of Diabetic Foot Ulcers: Insights into Pharmacological Interventions.
2. Predictors of Successful Antibiotic Treatment of Osteomyelitis in Diabetic Forefoot Infection.
3. Enhanced diabetic foot ulcer treatment with a chitosan-based thermosensitive hydrogel loaded self-assembled multi-functional nanoparticles for antibacterial and angiogenic effects.
4. Diabetic Foot Infection Severity as a Predictor of Re-ulceration Following Partial Forefoot Amputation.
5. Genetic Characterization of Methicillin-Resistant Staphylococcus aureus Isolated From Diabetic Foot Ulcers in a Tertiary Care Hospital in Mysuru, South India.
6. Amputation versus circular external fixation in the treatment of diabetic foot with osteomyelitis: a cost and quality-of-life analysis.
7. Wireless matrix metalloproteinase-9 sensing by smart wound dressing with controlled antibacterial nanoparticles release toward chronic wound management.
8. Correlating Climate Conditions With Pseudomonas aeruginosa Prevalence in Diabetic Foot Infections Within the United States.
9. High Prescription Rate of Medications With Rifampin Drug-drug Interactions in Patients With Diabetic Foot Osteomyelitis: Should Rifabutin Be Included in Clinical Trials for Adjunctive Therapy?
10. Evaluation of Antibiotic-Loaded Bone Cement in Treatment of Infected Diabetic Foot: Systematic Review and Meta-Analysis.
11. Role and applications of (18)F-FDG PET/CT in the assessment of osteoarticular infection and inflammation - Part I.
12. The antimicrobial and antibiofilm effects of gentamicin, imipenem, and fucoidan combinations against dual-species biofilms of Staphylococcus aureus and Acinetobacter baumannii isolated from diabetic foot ulcers.
13. Transarticular versus Transosseous Amputations in Diabetic Foot Osteomyelitis: A Retrospective Comparative Study.
14. Metatarsal Osteotomy versus Metatarsal Head Resection for Distal Diabetic Foot Ulcers.
15. [Cellulitis : management recommendations].
16. Machine learning-driven discovery of novel therapeutic targets in diabetic foot ulcers.
17. New nano-chemotherapeutic chitosans-garlic oil-antibiotics against diabetic foot virulent Proteus spp.
18. The healing process of diabetic ulcers correlates with changes in the cutaneous microbiota.
19. The Infected Diabetic Foot: Does Negative Pressure Wound Therapy with Irrigation Reduce Bioburden and Improve Wound Healing?
20. Hypoxic culture enhances the antimicrobial activity of amnion-derived mesenchymal stem cells, thereby reducing bacterial load and promoting wound healing in diabetic mice.
21. [Translated article] Reamputation prevalence after minor feet amputations in patients with diabetic foot, a cross sectional study.
22. Microbial profile of diabetic foot osteomyelitis from the northwest of England.
23. Increased risk of major adverse cardiovascular events in patients with deep and infected diabetes-related foot ulcers.
24. Risk Factors for Multidrug-Resistant Bacterial Infection in Diabetic Foot Ulcers.
25. Self-healing Ppy-hydrogel promotes diabetic skin wound healing through enhanced sterilization and macrophage orchestration triggered by NIR.
26. Photo-controlled multifunctional hydrogel for photothermal sterilization and microenvironment amelioration of infected diabetic wounds.
27. Atypical Manifestation of Enterobius vermicularis Infestation in Adults: A Report of a Rare Case.
28. Evaluation of wound temperature monitoring at various anatomical sites in the management of patients with diabetic foot undergoing microcirculation reconstruction.
29. Re-infection after treatment for moderate and severe diabetic foot infections.
30. Guided Conditional Diffusion Classifier (ConDiff) for Enhanced Prediction of Infection in Diabetic Foot Ulcers.
31. Evaluation of empirical antibiotic use in diabetic foot infections at a tertiary hospital in Vietnam: A retrospective study.

Venous Leg Ulcers

1. Efficient photocatalytic degradation of ciprofloxacin using floating α-NiMoO(4)/mpg-C(3)N(4)/EP under visible light.
2. Association of biofilm and microbial metrics with healing rate in older adults with chronic venous leg ulcers.

Dermal Biofilms

1. On-demand imidazolidinyl urea-based tissue-like, self-healable, and antibacterial hydrogels for infectious wound care.
2. Evaluation of the Microbiology of Removed Punctal Plugs and Intracanalicular Devices.
3. H(2)S scavenger as a broad-spectrum strategy to deplete bacteria-derived H(2)S for antibacterial sensitization.
4. Effectiveness of co-cultured Myristica fragrans Houtt. seed extracts with commensal Staphylococcus epidermidis and its metabolites in antimicrobial activity and biofilm formation of skin pathogenic bacteria.
5. Multifunctional poloxamer-based thermo-responsive hydrogel loaded with human lactoferricin niosomes: In vitro study on anti-bacterial activity, accelerate wound healing, and anti-inflammation.
6. A peptide targeting outer membrane protein A of Acinetobacter baumannii exhibits antibacterial activity by reducing bacterial pathogenicity.
7. Evaluation of biofilm formation and antimicrobial susceptibility (drug resistance) of Candida albicans isolates.
8. Rumex japonicus Houtt. Leaves: The chemical composition and anti-fungal activity.
9. Radical formation in skin and preclinical characterization of a novel medical plasma device for dermatology after single application.
10. Metal-phenolic nanoparticles enhance low temperature photothermal therapy for bacterial biofilm in superficial infections.
11. Pullulan nanoparticles inhibit the pathogenicity of Candida albicans by regulating hypha-related gene expression.
12. Emergence of rifampicin-resistant staphylococci on the skin and nose of rifampicin-treated patients with an orthopaedic-device-related infection.
13. Antifungal peptide-loaded alginate microfiber wound dressing evaluated against Candida albicans in vitro and ex vivo.
14. The antimicrobial potential of traditional remedies of Indigenous peoples from Canada against MRSA planktonic and biofilm bacteria in wound infection mimetic conditions.
15. Dissecting the genetic features and evolution of Staphylococcus aureus sequence type 88: a global perspective.
16. Diverse antifungal potency of terbinafine as a therapeutic agent against Exophiala dermatitidis in vitro.
17. Vesicular phospholipid gels: A new strategy to improve topical antimicrobial dermatotherapy.
18. Phenotypic and genetic characterization of daptomycin non-susceptible Staphylococcus aureus strains selected by adaptive laboratory evolution.
19. Chemical analysis, antibacterial and anti-inflammatory effect of Achillea fragrantissima essential oil growing wild in Egypt.
20. Impacts of microplastics on ecosystem services and their microbial degradation: a systematic review of the recent state of the art and future prospects.
21. Coagulase-Negative Staphylococci phages panorama: Genomic diversity and in vitro studies for a therapeutic use.
22. Application of a novel phage vB\_CjeM\_WX1 to control Campylobacter jejuni in foods.
23. De novo design of Na(+)-activated lipopeptides with selective antifungal activity: A promising strategy for antifungal drug discovery.
24. Smart drug delivery and responsive microneedles for wound healing.
25. Novel Tree Shrew-Derived Antimicrobial Peptide with Broad-Spectrum Antibacterial Activity.
26. Detection of biofilm formation and antibiotics resistance of Staphylococcus spp. isolated from humans' and birds' oral cavities.

Atopic Dermatitis & SA

1. Double-Layered Microneedle Patch Integrated with Multifunctional Nanoparticles and Live Bacteria for Long-Term Treatment of Atopic Dermatitis.

Dermal Fungal

1. Effect of Java plum (Syzygium cumini) leave extract and a silver nanoparticles synthesis on pathogens in skin diseases of dogs.
2. Phylogenetic evaluation and genotypic identification of burn-related Pseudomonas aeruginosa strains isolated from post-burn human infections during hospitalization.
3. Atypical cutaneous leishmaniasis: a new challenge to VL elimination in South-East Asia.
4. Deep Dermal Dilemma: A Case Report on Majocchi's Granuloma After Topical Steroid Use.

Competitors

1. Clindamycin and bacterial load reduction as prophylaxis for surgical site infection after below-knee flap and graft procedures: A trial protocol.
2. Response to the letter to the editor regarding "The efficacy of an alcohol-based nasal antiseptic versus mupirocin or an iodophor for preventing SSIs using a meta-analysis".
3. Pemphigus Vulgaris Mimicking Seborrheic Dermatitis: A Case Report.
4. Effect of Staphylococcal Decolonization Regime on Post-Craniotomy Meningitis.

Dressings

1. One-step construction of silver nanoparticles immersed hydrogels by triple-helix β-glucans and the application in infectious wound healing.
2. Injectable Salecan/hyaluronic acid-based hydrogels with antibacterial, rapid self-healing, pH-responsive and controllable drug release capability for infected wound repair.
3. All-natural hydrogel composed of carboxymethyl chitosan and oxidized dextran for promoting wound healing by immune-microenvironment regulation.
4. A chitosan/gelatin/aldehyde hyaluronic acid hydrogel coating releasing calcium ions and vancomycin in pH response to prevent the formation of bacterial biofilm.
5. Biomimetic superparamagnetic gelatin/chitosan asymmetric fibrous membrane for accelerating wound healing under static magnetic field.
6. Self-assembling chitosan based injectable and expandable sponge with antimicrobial property for hemostasis and wound healing.
7. Propolis-loaded photocurable methacrylated pullulan films: Evaluation of mechanical, antibacterial, biocompatibility, wound healing and pro-angiogenic abilities.
8. Locust bean gum-based silver nanocomposite hydrogel as a drug delivery system and an antibacterial agent.
9. Gellan gum-based multifunctional hydrogel with enduring sterilization and ROS scavenging for infected wound healing.
10. Development and characterization of antibacterial marine extract-infused cellulose acetate nanofibers as wound dressings for combatting multidrug-resistant wound infections.
11. Facile fabrication of a starch-based wood adhesive showcasing water resistance, flame retardancy, and antibacterial properties via a dual crosslinking strategy.
12. Antibacterial and wound healing stimulant nanofibrous dressing consisting of soluplus and soy protein isolate loaded with mupirocin.
13. Formulation, Characterization and Evaluation of Minocycline Hydrochloride Loaded Polyurethane/Collagen Nanofibers via Electrospinning as Wound Dressings.
14. Characterization and Performance Evaluation of Magnesium Chloride-Enriched Polyurethane Nanofiber Patches for Wound Dressings.
15. A functional dual responsive CMC/OHA/SA/TOB hydrogel as wound dressing to enhance wound healing.
16. Chiral helix amplification and enhanced bioadhesion of two-component low molecular weight hydrogels regulated by OH to eradicate MRSA biofilms.
17. LysSYL-Loaded pH-Switchable Self-Assembling Peptide Hydrogels Promote Methicillin-Resistant Staphylococcus Aureus Elimination and Wound Healing.
18. Magnetic hydrogel scaffold based on hyaluronic acid/chitosan and gelatin natural polymers.
19. Thermosensitive Injectable Dual Drug-Loaded Chitosan-Based Hydrogels for Treating Bacterial Endometritis.
20. In vitro Analysis of XLAsp-P2 Peptide Loaded Cellulose Acetate Nanofiber for Wound Healing.
21. Formulation of Asiatic acid-loaded polymeric chitosan-based hydrogel for effective MRSA infection control and enhanced wound healing in zebrafish models.
22. Cellulosic schiff base hydrogel biosensor for bacterial detection with pH/thermo-responsitivity: DFT calculations and molecular docking.
23. Rapidly in situ forming antibiotic-free injectable hydrogel wound dressing for eradicating drug-resistant bacterial infections in human skin organoids.
24. Controlled Nitric Oxide-Releasing Nanovehicles for Enhanced Infected Wound Healing: A Study on PDA@BNN6 Encapsulated in GelMA Hydrogel.
25. Nitric oxide-releasing self-healing hydrogel for antibacterial and antibiofilm efficacy against polymicrobial infection.
26. Antimicrobial Peptide SAAP-148-Functionalized Hydrogels from Photocrosslinkable Polymers with Broad Antibacterial Activity.
27. Licochalcone A loaded multifunctional chitosan hyaluronic acid hydrogel with antibacterial and inflammatory regulating effects to promote wound healing.
28. Synthesis of Carboxylate-Dialdehyde Cellulose to Use as a Component in Composite Thin Films for an Antibacterial Material in Wound Dressing.
29. Enhancing Wound Healing with Nanohydrogel-Entrapped Plant Extracts and Nanosilver: An In Vitro Investigation.
30. Hybrid poly(lactide-co-glycolide) membranes incorporated with doxycycline-loaded copper-based metal-organic nanosheets as antibacterial platforms.
31. A novel polyurethane-based silver foam dressing with superior antimicrobial action for management of infected chronic wounds.
32. Phytochemical screening of an essential oil-loaded PVA/GA hydrogel membrane for potential wound healing applications.
33. Poly(thioctic acid) Hydrogels Integrated with Self-Healing, Bioadhesion, Antioxidation, and Antibiosis for Infected Wound Treatment.
34. Glucose-activated self-cascade antibacterial and pro-angiogenesis nanozyme-functionalized chitosan-arginine thermosensitive hydrogel for chronic diabetic wounds healing.
35. Natural cellulose reinforced multifunctional eutectogels for wearable sensors and epidermal electrodes.
36. Self-assembled near-infrared-photothermal antibacterial Hericium erinaceus β-glucan/tannic acid/Fe (III) hydrogel for accelerating infected wound healing.
37. Quaternized chitosan-based biomimetic nanozyme hydrogels with ROS scavenging, oxygen generating, and antibacterial capabilities for diabetic wound repair.
38. Tissue adhesive hyaluronan-quercetin (Ag(o))@halloysite-fungal carboxymethyl chitosan nanocomposite hydrogels for wound dressing applications.
39. Injectable self-healing alginate/PEG hydrogels cross-linked via thiol-Michael addition bonds for hemostasis and wound healing.
40. Medicated tri-layer fibers based on cellulose acetate and polyvinylpyrrolidone for enhanced antibacterial and wound healing properties.
41. Carboxymethyl chitosan/dialdehyde quaternized pullulan self-healing hydrogel loaded with tranexamic acid for rapid hemostasis.
42. Bioadhesive supramolecular polymer/hyaluronic acid hydrogel with zinc ion and dexamethasone slow release for diabetic wound healing.
43. Multifunctional hydrogel based on polyvinyl alcohol/chitosan/metal polyphenols for facilitating acute and infected wound healing.
44. Multifunctional Polysaccharide Self-Healing Wound Dressing: NIR-Responsive Carboxymethyl Chitosan / Quercetin Hydrogel.

Staphylococcal skin infection

1. Suprathel® and water-filtered infrared-A radiation (wIRA) as a new treatment strategy for toxic epidermal necrolysis (TEN): A prospective study.
2. 17q12 microdeletion syndrome.
3. Erosive bilateral glenohumeral osteoarthritis caused by urosepsis-induced septic arthritis.
4. Microbiome in the External Auditory Canal of Hearing Aided Patients with Pruritis.
5. Spread of livestock-associated methicillin-resistant Staphylococcus aureus in poultry and its risks to public health: A comprehensive review.

Other news of possible interest