**Dermal Literature Review**

**Period: 01/12/2024 – 01/01/2025**

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Scientific Highlights:

Burn wound Infections (infections of or preventing infections)

1. Free DNA partially clarifies discrepancies between qPCR and the conventional phage quantification method.
2. Unveiling the antibacterial action of ambroxol against Staphylococcus aureus bacteria: in vitro, in vivo, and in silico investigation.
3. Preparation and Characterization of Essential oil from Lavandula spica Plant and its Antimicrobial Activity against Pseudomonas aeruginosa and Staphylococcus aureus.
4. Poly(Vinyl Alcohol) Drug and PVA-Drug-Surfactant Complex Organogel with Dimethyl Sulfoxide as a Drug Delivery System.
5. Investigating the antibacterial potential of thiophene derivatives against wound infections: a combined DFT, molecular docking, and ADMET study targeting Staphylococcus aureus, Pseudomonas aeruginosa, and Escherichia coli resistant genes.
6. Development of a pH-Responsive Antimicrobial and Potent Antioxidant Hydrogel for Accelerated Wound Healing: A Game Changer in Drug Delivery.
7. Green synthesis of propolis mediated silver nanoparticles with antioxidant, antibacterial, anti-inflammatory properties and their burn wound healing efficacy in animal model.
8. Antibacterial chitosan/organic rectorite nanocomposite-conjugated gelatin/β-cyclodextrin hydrogels with improved hemostasis performance for wound repair.
9. Oral switch vs continued intravenous antibiotic therapy in patients with bacteraemia and sepsis: a systematic review and meta-analysis.
10. Preparation and properties of thermal responsive 2,3-diethyl-5-methylpyrazine fragrance microcapsules with β-CD/CS as wall materials.
11. Adhesive, Stretchable, and Photothermal Antibacterial Hydrogel Dressings for Wound Healing of Infected Skin Burn at Joints.
12. One-pot rapid preparation of long-term antioxidant and antibacterial biomedical gels based on lipoic acid and eugenol for accelerating cutaneous wound healing.
13. Bacteria-activated macrophage membrane coated ROS-responsive nanoparticle for targeted delivery of antibiotics to infected wounds.
14. Health associated quality of life impairment in People who inject drugs (PWID) after blood stream infection.

Diabetic Foot Ulcers

1. Colistin induced neurotoxicity with bulbar palsy. A case report and literature review.
2. Tetanus development during hospitalization in an older adult.
3. A few-shot diabetes foot ulcer image classification method based on deep ResNet and transfer learning.
4. Evaluation of virulence genes in Proteus strains isolated from diabetic foot infections and urinary tract infections.
5. Umbilical abscess caused by Helcococcus kunzii: a case report and literature review.
6. A Preliminary Assessment of Barriers and Facilitators to Accessing Footcare in Homeless Shelters: A Scoping Review.
7. Emerging technologies for the management of diabetic foot ulceration: a review.
8. Enhancing Skin Wound Healing in Diabetic Mice Using SIKVAV-Modified Chitosan Hydrogels.
9. Therapy for Non-Diabetic Foot Infections After Orthopedic Foot and Ankle Surgery: The Duration of Post-Debridement Antibiotic Treatment Does Not Alter Failure Risk.
10. Material Technologies for Improved Diabetic Foot Ulcer (DFU) Treatment: A Questionnaire Study of Healthcare Professionals' Needs.
11. Engineering Gas-Releasing Nanomaterials for Efficient Wound Healing.
12. Prevalence and Risk Factors Predicting Onychomycosis in Patients with and Without Diabetes Mellitus in Spain: A Cross-Sectional Study.
13. Antimicrobial Photodynamic Therapy in the Treatment of Diabetic Foot Ulcer: A Scoping Review.
14. Shengji ointment combined with bromelain promotes granulation of exposed tendons in diabetic foot ulcers: A multicenter, randomized, positive-controlled clinical trial.
15. Investigate Freshwater Algae Extract's Efficacy in Treating Diabetes Ulcers and Its Anti-Staphylococcal Properties.
16. Keller and Interphalangeal Joint Resection Arthroplasties for Chronic Noncomplicated Diabetic Ulcers of the Hallux: A Systematic Review and Meta-analysis.
17. The Value of Restaging WIfI (Wound, Ischemia, Foot Infection) after Initial Vascular and Podiatric Intervention.
18. Weight bearing versus non-weight bearing total contact cast in the management of active Charcot foot: A systematic review.
19. Identifying multidrug-resistant organisms in diabetic foot ulcers: a study of risk factors and antimicrobial resistance genes.
20. [Ulcers and diabetic foot : Modern and alternative treatment strategies].
21. Placenta-derived biomaterials vs. standard care in chronic diabetic foot ulcer healing: A systematic review and meta-analysis.
22. Multitasking Asynchronous Collaborative Nanosystem for Diabetic Wound Healing Based on Hypoglycemic, Antimicrobial, and Angiogenesis-Promoting Effects.
23. Adjuvant local antibiotic therapy in the management of diabetic foot osteomyelitis.
24. Clinical performance and cost-effectiveness of a Silicone foam with 3DFit™ technology in chronic wounds compared with standard of care: An open randomised multicentre investigation.
25. An Update on Diabetic Foot Ulcer and Its Management Modalities.
26. Intact fish skin graft a new hope for the treatment of diabetic foot ulcers: A case report.
27. Relevance of macrophages in the wound healing process among individuals afflicted with diabetic foot ulcers.
28. The infected diabetic foot: Incidence and risk factors for dehiscence after surgery for diabetic foot infections.
29. Trichophyton mentagrophytes delays wound healing in ob/ob mice.
30. Efficacy of Cold Atmospheric Plasma in Chronic Diabetic Foot Ulcer Management: A Case Report.
31. [Evaluation of risk factors in diabetic foot infections with systemic inflammatory response syndrome].
32. [The value of local antibiotics for foot infection in persons with diabetes].
33. [Emphasize comprehensive treatment: the cornerstone of the treatment for severe diabetic foot].
34. Linezolid induced acute toxic leukoencephalopathy and severe thrombocytopenia presenting as stroke mimic-a case report.
35. Regenerative Nanofat Membrane Development Process.
36. Healing of diabetic neuropathic foot ulcers receiving standard treatment in randomised controlled trials: A random effects meta-analysis.
37. Impact of Timing of Minor Amputations After Revascularization on Patient Outcomes.
38. Unravelling the cardio-renal-metabolic-foot connection in people with diabetes-related foot ulceration: a narrative review.

Venous Leg Ulcers

1. Detection of HPV 16 and 18 L1 genes by a nucleic acid amplification-free electrochemical biosensor powered by CRISPR/Cas9.
2. Biofilm and Its Characteristics in Venous Ulcers.
3. Inflammatory and vaso-occlusive ulcers: Part II - Management.

Dermal Biofilms

1. Discovery and optimization of tetrahydroacridine derivatives as a novel class of antibiotics against multidrug-resistant Gram-positive pathogens by targeting type I signal peptidase and disrupting bacterial membrane.
2. Mycosynthesis of silver nanoparticles from endophytic Aspergillus parasiticus and their antibacterial activity against methicillin-resistant Staphylococcus aureus in vitro and in vivo.
3. Comparative efficacy of essential oils against Cutibacterium acnes: effect upon strains from phylotypes with different virulence patterns.
4. Plasma Surface Modification of the Inner Wall of Montgomery's Tracheal Implant (T-Tube).
5. Cinnamaldehyde in Focus: Antimicrobial Properties, Biosynthetic Pathway, and Industrial Applications.
6. Comprehensive Approaches to Combatting Acinetobacter baumannii Biofilms: From Biofilm Structure to Phage-Based Therapies.
7. From Burst to Sustained Release: The Effect of Antibiotic Structure Incorporated into Chitosan-Based Films.
8. Characterization of Serratia marcescens (OK482790)' prodigiosin along with in vitro and in silico validation for its medicinal bioactivities.
9. "On-demand" nanosystem-integrated microneedles for amplified triple therapy against recalcitrant bacteria and biofilm growth.
10. Long-term oritavancin therapy for shoulder prosthetic joint infection: A case guided by therapeutic drug monitoring (TDM).
11. Tracing Staphylococcus capitis and Staphylococcus epidermidis strains causing septicemia in extremely preterm infants to the skin, mouth, and gut microbiota.
12. Biocompatibility Analysis of the Silver-Coated Microporous Titanium Implants Manufactured with 3D-Printing Technology.
13. Silver nanoparticles loaded with pomegranate peel extract and hyaluronic acid mediate recovery of cutaneous wounds infected with Candida albicans.
14. Novel benzothiazole derivatives target the Gac/Rsm two-component system as antibacterial synergists against Pseudomonas aeruginosa infections.
15. Cutibacterium acnes strains associated with bone prosthesis infections cannot evade the host immune system.
16. Relationship between the strength of biofilm production and the presence of pvl and mecA genes in Staphylococcus aureus isolated from skin and soft tissue infections.
17. Corrole-based photothermal nanocomposite hydrogel with nitric oxide release for diabetic wound healing.
18. A comparison of super-resolution microscopy techniques for imaging tightly packed microcolonies of an obligate intracellular bacterium.
19. Enhancing Photothermal Therapy for Antibiofilm Wound Healing: Insights from Graphene Oxide-Cranberry Nanosheet Loaded Hydrogel in vitro, in silico, and in vivo Evaluation.
20. The Prevalence and Comparative Analysis of Adhesion and Biofilm-Related Genes in Staphylococcus aureus Isolates: A Network Meta-Analysis.
21. Rapid release of high-valent silver ions from water-soluble porphyrin complexes to enhance the direct killing of Methicillin-Resistant Staphylococcus aureus.
22. Imidazolium, pyridinium and pyrazinium based ionic liquids with octyl side chains as potential antibacterial agents against multidrug resistant uropathogenic E. coli.
23. Time-kill curve analysis of fucoidan combination with conventional antibiotics against biofilms formation of methicillin-resistant Staphylococcus aureus and Acinetobacter baumannii clinical isolates.
24. Characterization of Staphylococcus lugdunensis biofilms through ethyl methanesulfonate mutagenesis.
25. Blue light-activated 5,10,15,20-tetrakis(4-bromophenyl)porphyrin for photodynamic eradication of drug-resistant Staphylococcus aureus.

Atopic Dermatitis & SA

1. Understanding the role of Staphylococcus aureus in atopic dermatitis: strain diversity, microevolution, and prophage influences.
2. The association of dextran sodium sulfate to the bioactive agent I-modulia® attenuates Staphylococcus aureus virulence expression and δ-toxin production.
3. Staphylococcus aureus δ-Toxin Induces Ca(2+) Influx-Independent Degranulation of Murine Cultured Mast Cells.

Dermal Fungal

1. 4-Substituted-2-Thiazole Amides as Viral Replication Inhibitors of Alphaviruses.
2. Secondary Myiasis in an Immunocompetent Patient With Severe Chromoblastomycosis.
3. Fibrillin-1 G234D mutation in the hybrid1 domain causes tight skin associated with dysregulated elastogenesis and increased collagen cross-linking in mice.
4. Trifluoromethylcinnamanilides - Effective dual inhibitors of Mycobacterium smegmatis and Plasmodium falciparum.
5. Nasal, dermal, oral and indoor dust microbe and their interrelationship in children with allergic rhinitis.
6. The ribotoxic stress response drives acute inflammation, cell death, and epidermal thickening in UV-irradiated skin in vivo.
7. The AxBioTick study - immune gene expression signatures in human skin bitten by Borrelia-infected versus non-infected ticks.
8. Deep Fungal Infections of Skin and Role of Histopathology in Diagnosis.
9. Lower limb nodules with angioinvasive Phaeoacremonium spp. fungus in an immunocompetent host.
10. Latest advance anti-inflammatory hydrogel wound dressings and traditional Lignosus rhinoceros used for wound healing agents.
11. Baseline concentrations and quantitative health risk assessment of polycyclic aromatic hydrocarbons (PAHs) in relation to particle grain size in street dust of Warsaw Poland.

Competitors

1. Phenotypic and genotypic detection of multi drug resistant coagulase-positive Staphylococcus spp. isolates from canine pyoderma.
2. Nanotechnological prospective for enhancing the antibacterial activity of mupirocin and cinnamon essential oil: a combination therapy.
3. Success rates of decolonisation treatment and risk factors for chronic carriage in methicillin-resistant Staphylococcus aureus throat carriers: a retrospective population-based cohort study.
4. Genital Herpes Zoster: A Report of a Rare Case.
5. Antimicrobial Resistance Profiles and mupA Gene Characterization of Staphylococcus epidermidis Recovered from Facial Skin of Healthy Females in Shanghai, China.
6. Topical mupirocin treatment reduces interferon and myeloid signatures in cutaneous lupus erythematous lesions through targeting of Staphylococcus species.
7. Antibiotic susceptibility and phenotypic profile of Staphylococcus species isolated from different clinical samples from health facilities: A cross-sectional study.

Dressings

1. Bactogram: Spatial Analysis of Bacterial Colonisation in Epidermal Wounds.
2. Chitosan-Alginate Hydrogel Enriched with Hypericum perforatum Callus Extract for Improved Wound Healing and Scar Inhibition.
3. Hydrogel biomimetic skin inspired by human skin for resisting bacterial infection.
4. Self-assembled Arginine-Glycine-Aspartic Acid Mimic Peptide Hydrogels as Multifunctional Biomaterials for Wound Healing.
5. Non-invasive in vivo sensing of bacterial implant infection using catalytically-optimised gold nanocluster-loaded liposomes for urinary readout.
6. Antimicrobial hydrogel scaffolds from Barba de Viejo microfibers, alginate and Ag(o) nanoparticles via green synthesis.
7. BaTiO(3) Doping Enhances Ultrasound-Driven Piezoelectric Bactericidal Effects of Fibrous Poly(L-Lactic Acid) Dressings to Accelerate Septic Wound Healing.
8. Multifunctional Ag-Poly(N-isopropylacrylamide/itaconic Acid) Hydrogel Nanocomposites Prepared by Gamma Irradiation for Potential Application as Topical Treatment Dressings.
9. The Acid-Buffered Engineered Gel Promotes In Vitro Cutaneous Healing and Fights Resistant Bacteria in Wounds.
10. Wound Gel Formulations Containing Poloxamer 407 and Polyhexanide Have In Vitro Antimicrobial and Antibiofilm Activity Against Wound-Associated Microbial Pathogens.
11. Incorporation of Ceragenins into Medical Adhesives and Adhesive Scar Tape to Prevent Microbial Colonization Common in Healthcare-Associated Infections.
12. Antimicrobial Activity of Glycyrrhizinic Acid Is pH-Dependent.
13. Enhancing Performance of Silicone Hydrogel Contact Lenses with Hydrophilic Polyphenolic Coatings.
14. Novel, Speedy, and Eco-Friendly Carboxymethyl Cellulose-Nitrogen Doped Carbon Dots Biosensors with DFT Calculations, Molecular Docking, and Experimental Validation.
15. Microneedles Constructed by Swellable Hydrogels Loaded with Celastrol for Efficient Treatment of Skin Infections Induced by Drug-Resistant Bacterial Strains.
16. Fluorescent antimicrobial hydrogel based on fluorophore N-doped carbon dots originated from cellulose nanocrystals.
17. An Asymmetric Bacterial Cellulose Membrane Incorporating CuPt Nanozymes and Curcumin for Accelerating Wound Healing.
18. Glucose-Activated Janus Wound Dressing for Enhanced Management of Infected and Exudative Diabetic Wounds.
19. The efficacy of a nitric oxide-releasing formulation on nares isolated Methicillin-Resistant Staphylococcus aureus in porcine wound infection model.
20. Lauric acid-mediated gelatin/hyaluronic acid composite hydrogel with effective antibacterial and immune regulation for accelerating MRSA-infected diabetic wound healing.
21. A Taguchi Approach for Optimization of Antimicrobial Effect of Whey Protein Based Edible Film Fermented by Bacillus clausii.
22. Bifunctional Electrospun Nanocomposite Dressing: Integrating Antibacterial Efficacy and Controllable Antioxidant Properties for Expedited Wound Healing.
23. Prodigiosin hydrogel to promote healing of trauma-infected multidrug-resistant Staphylococcus aureus mice wounds.
24. Copper peroxide-loaded lignin-based non-isocyanate polyurethane foam for wound repair applications.
25. Efficacy of a Topical Nitric Oxide-Releasing Gel on Polymicrobial Wound Infections.
26. Antibacterial and safe chitosan-graphene hydrogel films: a promising nanotherapeutic for Staphylococcus aureus wound infections.
27. Mupirocin-Doped α-Cellulose Nanopaper for Wound Dressing: Development, In Vitro Characterization and Antimicrobial Studies.
28. Preparation and Antibacterial Activity Evaluation of Daphnetin-Loaded Poloxamers/Polyvinylpyrrolidone Thermosensitive Hydrogels.
29. Functionalized cellulose nanocrystals reinforced PLA-gelatin electrospun fibers for potential antibacterial wound dressing and coating applications.
30. Trojan Horse Bioheterojunction Empowers Adhesive Hydrogel with Robust Antibacterial Activity and Sensing Capacity for Infected Cutaneous Regeneration.
31. Dual-Functionalized Injectable pH-Responsive Hydrogels Loaded with Magnesium Peroxide for the Treatment of Implant-Associated Infection.
32. Chitosan and gelatin based sprayable hydrogels incorporating photothermal and long-acting antibiotic sterilization for infected wound management with shape adaptability.
33. High-performance conductive double-network hydrogel base on sodium carboxymethyl cellulose for multifunctional wearable sensors.
34. Dermatological Nanotechnology: Gelatin films with O/W emulsions for skin lesion repair.
35. Near-field coupling resonance enhancement with AuNiO Heterostructure nanosheets for high-performance photodynamic/photothermal Hybrid antibacterial & imaging tracking.
36. Dressing membrane composites of PVA/chitosan/MgO nanoparticles for wound healing applications in rat model.
37. A Microenvironment-Responsive Graphdiyne-Iron Nanozyme Hydrogel with Antibacterial and Anti-Inflammatory Effect for Periodontitis Treatment.
38. A multi-functional oxidative konjac glucomannan/ε-poly-l-lysine hydrogel with antibacterial, haemostatic, and chronic diabetic wound-treating properties.

Staphylococcal skin infection

1. Phenotypic and Genotypic Correlates of the NaHCO(3)-Responsive Phenotype Among Methicillin-Resistant Staphylococcus aureus (MRSA) Isolates from Skin and Soft Tissue Infections (SSTIs).
2. Bloodstream infections caused by Staphylococcus aureus in patients admitted to King Abdulaziz University Hospital, Jeddah, Saudi Arabia.
3. A first case of subdural empyema due to Staphylococcus saccharolyticus.
4. Structure-guided development of selective caseinolytic protease P agonists as antistaphylococcal agents.
5. [Genetic diseases with skin fragility in children].
6. Community-associated methicillin-resistant Staphylococcus aureus in the Kimberley region of Western Australia, epidemiology and burden on hospitals.
7. In Vitro Susceptibility of Clinical and Carrier Strains of Staphylococcus aureus to STAFAL(®) Phage Preparation.
8. Biological and hardware-related spinal cord stimulation complications and their management: A single-center retrospective analysis of the implantation of nonrechargeable implantable pulse generators in different pain conditions.
9. Atomic Zn-N(4) Site-Regulated Donor-Acceptor Catalyst for Boosting Photocatalytic Bactericidal Activity.
10. Hyaluronan Scaffold Decorated with Bifunctional Peptide Promotes Wound Healing via Antibacterial and Anti-Inflammatory.
11. Beta-lactamase production among different agr groups of Staphylococcus pseudintermedius isolates from broilers.
12. Revealing inducible clindamycin resistance in methicillin-resistant S aureus : A vital diagnostic imperative for effective treatment.

Other news of possible interest