**Dermal Literature Review**

**Period: Start date – 05/10/2023**

[Scientific Highlights: 1](#_Toc147397870)

[Burn wound Infections (infections of or preventing infections) 1](#_Toc147397871)

[Diabetic Foot Ulcers 1](#_Toc147397872)

[Venous Leg Ulcers 1](#_Toc147397873)

[Dermal Biofilms 2](#_Toc147397874)

[Atopic Dermatitis & SA 2](#_Toc147397875)

[Dermal Fungal 2](#_Toc147397876)

[Competitors 2](#_Toc147397877)

[Dressings 2](#_Toc147397878)

[Guidelines 2](#_Toc147397879)

[Other news of possible interest 2](#_Toc147397880)

Scientific Highlights:

Burn wound Infections (infections of or preventing infections)

1. Three-year epidemiology of hospitalised paediatric burn patients in a Malaysian Tertiary Hospital 2016 - 2018.
2. Influence of ZnO Nanoparticles on the Properties of Ibuprofen-Loaded Alginate-Based Biocomposite Hydrogels with Potential Antimicrobial and Anti-Inflammatory Effects.
3. CNP-miR146a Decreases Inflammation in Murine Acute Infectious Lung Injury.
4. Demodex Species and Culturable Microorganism Co-Infestations in Patients with Blepharitis.
5. Risk Factors and Pathogens of Wound Infection in Burn Inpatients from East China.
6. Common Resistance Patterns in the Burn Unit of a Tertiary Care Center: A Retrospective Observational Study.
7. Sprayed PAA-CaO(2) nanoparticles combined with calcium ions and reactive oxygen species for antibacterial and wound healing.
8. LYZ2-SH3b as a novel and efficient enzybiotic against methicillin-resistant Staphylococcus aureus.
9. Two birds, one stone: Enhancement of flame retardancy and antibacterial property of viscose fabric using an aminoazole-based cyclotriphosphazene.
10. Instant Protection Spray for Anti-Infection And Accelerated Healing of Empyrosis.
11. Application of CRISPR-Cas system in the diagnosis and therapy of ESKAPE infections.
12. Microbiologic Analysis of Hand Infections: A Prospective Study.
13. PLA-HPG based coating enhanced anti-biofilm and wound healing of Shikonin in MRSA-infected burn wound.
14. Radiosterilized Pig Skin, Silver Nanoparticles and Skin Cells as an Integral Dressing Treatment for Burns: Development, Pre-Clinical and Clinical Pilot Study.
15. Copper-based dressing: Efficacy in a wound infection of ex vivo human skin.
16. Response on Article "A Sustained-Release Nanosystem with MRSA Biofilm-Dispersing and -Eradicating Abilities Accelerates Diabetic Ulcer Healing" [Response to Letter].
17. Main Pathogens Causing Infections And Antibiotic Resistance Profile In Major Burns In Brazil Comparing Two Periods: 2015/2016 And 2019/2020.
18. Clinical characteristics and homology analysis of Staphylococcus aureus from would infection at a tertiary hospital in southern Zhejiang, China.
19. Analysis of povidone iodine, chlorhexidine acetate and polyhexamethylene biguanide as wound disinfectants: in vitro cytotoxicity and antibacterial activity.
20. Baicalin, silver titanate, Bletilla striata polysaccharide and carboxymethyl chitosan in a porous sponge dressing for burn wound healing.

Diabetic Foot Ulcers

1. Characteristics and management of patients undergoing emergency surgery for diabetic foot attack.
2. Community-associated methicillin-resistant Staphylococcus aureus infection of diabetic foot ulcers in an eastern diabetic foot center in a tertiary hospital in China: a retrospective study.
3. The impact of wound pH on the antibacterial properties of Medical Grade Honey when applied to bacterial isolates present in common foot and ankle wounds. An in vitro study.
4. A fact-finding survey on pre-ulcerative lesions of foot in patients with diabetes: analysis using the Diabetes Study from the Center of Tokyo Women's Medical University 2018 (DIACET 2018).
5. IWGDF/IDSA Guidelines on the Diagnosis and Treatment of Diabetes-related Foot Infections (IWGDF/IDSA 2023).
6. IWGDF/IDSA guidelines on the diagnosis and treatment of diabetes-related foot infections (IWGDF/IDSA 2023).
7. Clinical Efficacy of Hyaluronic Acid with Iodine in Hard-to-Heal Wounds.
8. The Use of Medical Grade Honey on Infected Chronic Diabetic Foot Ulcers-A Prospective Case-Control Study.
9. Impact of Psychological Distress on Physiological Indicators of Healing Prognosis in Patients with Chronic Diabetic Foot Ulcers: A Longitudinal Study.
10. Human Wounds and its Burden: Updated 2022 Compendium of Estimates.
11. The Ageing Foot.
12. Postoperative Glycemic Response in High-Risk Type II Diabetics Receiving Below-Knee Amputation: Does Intraoperative Dexamethasone Make an Impact?
13. Recent advances in 3D printed cellulose-based wound dressings: A review on in vitro and in vivo achievements.
14. Analysis of risk factors of infection in diabetic foot patients.
15. Identification of contributing factors, microorganisms and antimicrobial resistance involved in the complication of diabetic foot ulcer treatment.
16. Gentamicin-permeated cement to sustain mechanical support for the treatment of a chronic calcaneal abscess. A case report.
17. Cerium oxide nanoparticles in diabetic foot ulcer management: Advances, limitations, and future directions.
18. Analysis of Lower Extremity Amputations from the SerbVasc Registry.
19. Data-driven digital health technologies in the remote clinical care of diabetic foot ulcers: a scoping review.

Venous Leg Ulcers

1. Evolution of the Chronic Venous Leg Ulcer Microenvironment and Its Impact on Medical Devices and Wound Care Therapies.
2. Implementing a new regimen to manage a difficult-to-heal lymphovenous leg ulcer.
3. Venous and lymphovenous lower limb wound outcomes in specialist UK wound and lymphoedema clinics.
4. Lower-Extremity Vascular Ulcers: Assessment and Approaches to Management.
5. Dressings and topical agents containing hyaluronic acid for chronic wound healing.
6. Nutritional Status of People with a Coexisting Chronic Wound and Extended Assessment Using Bioelectrical Impedance.
7. Clinical correlates of pain in adults with hard-to-heal leg ulcers: a cross-sectional study.
8. Variations in land surface temperatures in small-scale urban areas in Vietnam during Covid-19 restrictions: Case studies from Da Nang, Hue and Vinh City.
9. Venous, Arterial, and Neuropathic Leg Ulcers With Emphasis on the Geriatric Population.
10. Ayurvedic management of venous ulcer - a case report.
11. A randomised controlled trial of compression therapies for the treatment of venous leg ulcers (VenUS 6): study protocol for a pragmatic, multicentre, parallel-group, three-arm randomised controlled trial.
12. Comparison of Resting State Functional Connectivity in Persons With and Without HIV: A Cross-sectional Study.
13. Do Commonly Used Antimicrobial Topicals Facilitate Venous Leg Ulcer Healing?
14. Effect of melatonin and luzindole antagonist on fipronil toxicity, detoxification and antioxidant enzyme system in different tissues of Helicoverpa armigera (Lepidoptera: Noctuidae).
15. The Role of Physical Therapies in Wound Healing and Assisted Scarring.
16. Eradication of the nidus in arteriovenous malformations with a dominant outflow vein in the lower extremities using coils and absolute ethanol.
17. Defensins of Lucilia sericata Larvae and Their Influence on Wound Repair Processes in Practical Assessment-A Study of Three Cases.
18. International validation of a venous leg ulcer risk assessment tool.
19. Prognostic factors for delayed healing of complex wounds in adults: A scoping review.

Dermal Biofilms

1. HOCl-producing Electrochemical Bandages for Treating Pseudomonas aeruginosa -Infected Murine Wounds.
2. The bioaccessibility of adsorped heavy metals on biofilm-coated microplastics and their implication for the progression of neurodegenerative diseases.
3. Epidemiology of Mycobacterium abscessus.
4. Metal-ruthenium complex based on dipyridylamine group as membrane-active antibacterial agent effectively decrease the development of drug-resistance on Staphylococcus aureus.
5. A simplified bacterial community found within the epidermis than at the epidermal surface of atopic dermatitis patients and healthy controls.
6. Antibacterial activity and antibacterial mechanism of flavaspidic acid BB against Staphylococcus haemelyticus.
7. Plasma activated water as a pre-treatment strategy in the context of biofilm-infected chronic wounds.
8. A Candida auris-specific adhesin, Scf1, governs surface association, colonization, and virulence.
9. Biased eviction of variant histone H3 nucleosomes triggers biofilm growth in Candida albicans.
10. Arginine Gemini-Based Surfactants for Antimicrobial and Antibiofilm Applications: Molecular Interactions, Skin-Related Anti-Enzymatic Activity and Cytotoxicity.
11. The World's First Acne Dysbiosis-like Model of Human 3D Ex Vivo Sebaceous Gland Colonized with Cutibacterium acnes and Staphylococcus epidermidis.
12. Epinephrine Affects Ribosomes, Cell Division, and Catabolic Processes in Micrococcus luteus Skin Strain C01: Revelation of the Conditionally Extensive Hormone Effect Using Orbitrap Mass Spectrometry and Proteomic Analysis.
13. Dermato-cosmeceutical properties of Pseudobombax ellipticum (Kunth) Dugand: Chemical profiling, in vitro and in silico studies.
14. Are antibiotics still relevant in acne? A review of the therapeutic conundrum.
15. Biofilm Models: Different Ways of Biofilm Characterization and Drug Discovery.
16. Microbiota of long-term indwelling hemodialysis catheters during renal transplantation perioperative period: a cross-sectional metagenomic microbial community analysis.
17. Attenuation of NLRP3 Inflammasome by Cigarette Smoke is Correlated with Decreased Defense Response of Oral Epithelial Cells to Candida albicans.
18. Molecular docking analysis of juglone with parvulin-type PPiase PrsA from Staphylococcus aureus.

Atopic Dermatitis & SA

1. Bleach baths enhance skin barrier, reduce itch but do not normalize skin dysbiosis in atopic dermatitis.
2. S. aureus virulence factors decrease epithelial barrier function and increase susceptibility to viral infection.
3. Neutrophil extracellular traps enhance S. aureus skin colonization by oxidative stress induction and downregulation of epidermal barrier genes.
4. Therapeutic potential of ozone water treatment in alleviating atopic dermatitis symptoms in mouse models: Exploring its bactericidal and direct anti-inflammatory properties.
5. The immunological and structural epidermal barrier dysfunction and skin microbiome in atopic dermatitis-an update.
6. Photoactivated Gallium Porphyrin Reduces Staphylococcus aureus Colonization on the Skin and Suppresses Its Ability to Produce Enterotoxin C and TSST-1.
7. Temporal relationships between Staphylococcus aureus colonization, filaggrin expression, and pediatric atopic dermatitis.
8. History of S. aureus Skin Infection Significantly Associates with History of Eczema Herpeticum in Patients with Atopic Dermatitis.
9. Staphylococcus epidermidis activates keratinocyte cytokine expression and promotes skin inflammation through the production of phenol-soluble modulins.
10. Recurrent staphylococcal scalded skin syndrome in a 20-month old-A case report.
11. Emerging Trends and Focus in Human Skin Microbiome Over the Last Decade: A Bibliometric Analysis and Literature Review.
12. Spinal cord injury as a result of Staphylococcus aureus pyogenic spinal infection complicating infected atopic eczema: two case reports.
13. Multilocus-sequence typing reveals clonality of Staphylococcus aureus in atopic dermatitis.
14. Combining 16S Sequencing and qPCR Quantification Reveals Staphylococcus aureus Driven Bacterial Overgrowth in the Skin of Severe Atopic Dermatitis Patients.
15. The association between S. aureus colonization on cheek skin at 2 months and subsequent atopic dermatitis in a prospective birth cohort.
16. The role of bacterial colonisation in severity, symptoms and aetiology of hand eczema: The importance of Staphylococcus aureus and presence of commensal skin flora.
17. Effect of sphingosine and inoculum concentrations on Staphylococcus aureus and Staphylococcus epidermidis biofilms.

Dermal Fungal

1. A biomimetic multi-layer scaffold with collagen and zinc doped bioglass as a skin-regeneration agent in full-thickness injuries and its effects in vitro and in vivo.
2. Chlorhexidine-Silver Nanoparticle Conjugation Leading to Antimicrobial Synergism but Enhanced Cytotoxicity.
3. A Sustainable, Green-Processed, Ag-Nanoparticle-Incorporated Eggshell-Derived Biomaterial for Wound-Healing Applications.
4. A prospective randomized clinical trial to assess antibiotic pocket irrigation on tissue expander breast reconstruction.
5. Antioxidant activity of mycelia methanolic extracts of endophytic fungi BvFV and BvFIX isolated from leaves of Bauhinia variegata.
6. Anti-inflammatory, antioxidant and photoprotective activity of standardised Gaultheria procumbens L. leaf, stem, and fruit extracts in UVA-irradiated human dermal fibroblasts.
7. The cancer-associated glycan polysialic acid is dysregulated in systemic sclerosis and is associated with fibrosis.
8. Assessment of treatment outcomes of visceral leishmaniasis (VL) treated cases and impact of COVID-19 on VL management and control services in Bangladesh.
9. Formulation and optimization of lipid- and Poloxamer-tagged niosomes for dermal delivery of terbinafine: preparation, evaluation, and inÂ vitro antifungal activity.
10. The Role of Box A of HMGB1 in Enhancing Stem Cell Properties of Human Mesenchymal Cells: A Novel Approach for the Pursuit of Anti-aging Therapy.
11. Mycelium-based biomaterials as smart devices for skin wound healing.
12. Amicrobial pustulosis of the folds: A case report of a rare variant of neutrophilic dermatosis associated with systemic lupus erythematosus.
13. Biosynthesis, characterization, and investigation of antimicrobial and cytotoxic activities of silver nanoparticles using Solanum tuberosum peel aqueous extract.
14. Atypical fibroxanthoma and pleomorphic dermal sarcoma: Local recurrence and metastasis in a nationwide population-based cohort of 1118 patients.
15. From In Silico Simulation between TGF-Î² Receptors and Quercetin to Clinical Insight of a Medical Device Containing Allium cepa: Its Efficacy and Tolerability on Post-Surgical Scars.
16. Ceramide synthesis regulates biogenesis and packaging of exosomal MALAT1 from adipose derived stem cells, increases dermal fibroblast migration and mitochondrial function.
17. Cell culture media dependent in vitro dynamics and culture characteristics of adult caprine dermal fibroblast cells.
18. Anticandidal Cu(I) complexes with neocuproine and 1-(4-methoxyphenyl)piperazine based diphenylaminomethylphosphine: Is Cu-diimine moiety a pharmacophore?
19. Slit-skin smear in post kala-azar dermal leishmaniasis and leprosy: How a negative report for Leishman-Donovan bodies in Giemsa stain may indicate leprosy.
20. Therapeutic Applications of Essential Oils from Native and Cultivated Ecuadorian Plants: Cutaneous Candidiasis and Dermal Anti-Inflammatory Activity.

Competitors

1. Antiseptics and mupirocin resistance in clinical, environmental, and colonizing coagulase negative Staphylococcus isolates.
2. Lupus Erythematosus Profundus with Multiple Overlying Cutaneous Ulcerations: A Rare Case.
3. Structure and Function of theÂ Î±-Hydroxylation Bimodule of the Mupirocin Polyketide Synthase.
4. Prevalence and Characterization of Staphylococcus aureus Isolated from Retail Raw Milk Samples in Chennai, India.
5. Genetic diversity of Staphylococcus aureus isolated from ear infections in Iran: Emergence of CC8/ST239-SCCmec III as major genotype.
6. Topical antibiotics prophylaxis for infections of indwelling pleural/peritoneal catheters (TAP-IPC): A pilot study.
7. Formulation and Characterization of Mupirocin Nanomicelles in Insulin-Based Gel for Dermatological Application.
8. Antibiotic hyper-resistance in a class I aminoacyl-tRNA synthetase with altered active site signature motif.
9. Identification of Vancomycin Resistance in Methicillin-resistant Staphylococcus aureus in two macaque species and decolonization and long-term prevention of recolonization in Cynomolgus Macaques (Macaca fascicularis).
10. Mupirocin loaded core-shell pluronic-pectin-keratin nanofibers improve human keratinocytes behavior, angiogenic activity and wound healing.
11. An antibacterial Multi-Layered scaffold fabricated by 3D printing and electrospinning methodologies for skin tissue regeneration.
12. Prevention of ICU-acquired infection with decontamination regimen in immunocompromised patients: a pre/post observational study.
13. Comparison of Disk Diffusion and Agar Dilution Method for the Detection of Mupirocin Resistance in Staphylococcal Isolates from Skin and Soft Tissue Infections.
14. Induced Fit Describes Ligand Binding to Membrane-Associated Cytochrome P450 3A4.
15. Impact of Bundled Intervention on Outcomes of Patients Undergoing Clean Orthopedic Surgeries With Hardware Implants: Small Prospective Randomized Controlled Trial.
16. Efficacy of a Novel Antibacterial Agent Exeporfinium Chloride, (XF-73), Against Antibiotic-Resistant Bacteria in Mouse Superficial Skin Infection Models.
17. Antibiotic susceptibility and clonal distribution of Staphylococcus aureus from pediatric skin and soft tissue infections: 10-year trends in multicenter investigation in China.
18. Antimicrobial resistome of coagulase-negative staphylococci from nasotracheal cavities of nestlings of Ciconia ciconia in Southern Spain: Detection of mecC-SCCmecÂ type-XI-carrying S. lentus.
19. Associated Outcomes of Different Intravenous Antibiotics Combined with 2% Mupirocin Ointment in the Treatment of Pediatric Patients with Staphylococcal Scalded Skin Syndrome.
20. Conservative Management of a Rare Entity-Aplasia Cutis Congenita: A Case Report.

Dressings

1. Antisense yycF and BMP-2 co-delivery gelatin methacryloyl and carboxymethyl chitosan hydrogel composite for infective bone defects regeneration.
2. Antibiofilm activity of promethazine, deferiprone and Manuka honey in an ex vivo wound model.
3. A Smart Stimulation-Deadhesion And Antimicrobial Hydrogel for Repairing Diabetic Wounds Infected with Methicillin-Resistant Staphylococcus Aureus.
4. Near-Infrared-Induced NO-Releasing Photothermal Adhesive Hydrogel with Enhanced Antibacterial Properties.
5. 2D foam film coating of antimicrobial lysozyme amyloid fibrils onto cellulose nanopapers.
6. Antibacterial Activity and Biocompatibility of Ag-Montmorillonite/Chitosan Colloidal Dressing in a Skin Infection Rat Model: An In Vitro and In Vivo Study.
7. Bioinspired 3D-printed scaffold embedding DDAB-nano ZnO/nanofibrous microspheres for regenerative diabetic wound healing.
8. Biologically Derived Nanoarchitectonic Coatings for the Engineering of Hemostatic Needles.
9. Chitosan/silkÂ fibroinÂ nanofibers-basedÂ hierarchicalÂ spongesÂ accelerateÂ infectedÂ diabeticÂ woundÂ healingÂ viaÂ aÂ HClOÂ self-producingÂ cascadeÂ catalyticÂ reaction.
10. Superhydrophilic Poly(2-hydroxyethyl methacrylate) Hydrogel with Nanosilica Covalent Coating: A Promising Contact Lens Material for Resisting Tear Protein Deposition and Bacterial Adhesion.
11. Tannin-Assisted Synthesis of Nanocomposites Loaded with Silver Nanoparticles and Their Multifunctional Applications.
12. Development of gallic acid-loaded ethylcellulose fibers as a potential wound dressing material.
13. Lavandula stoechas extract incorporated polylactic acid nanofibrous mats as an antibacterial and cytocompatible wound dressing.
14. Cypate-loaded hollow mesoporous Prussian blue nanoparticle/hydrogel system for efficient photodynamic therapy/photothermal therapy dual-modal antibacterial therapy.
15. Fabrication and characterization of new levan@CBD biocomposite sponges as potential materials in natural, non-toxic wound dressing applications.
16. Biosynthesis of Zinc Oxide Nanoparticles on l-Carnosine Biofunctionalized Polyacrylonitrile Nanofibers; a Biomimetic Wound Healing Material.
17. A novel multifunctional chitosan-gelatin/carboxymethyl cellulose-alginate bilayer hydrogel containing human placenta extract for accelerating full-thickness wound healing.
18. Janus polyurethane sponge as an antibiofouling, antibacterial, and exudate-managing dressing for accelerated wound healing.
19. In vitro prevention and inactivation of biofilms using controlled-release iodine foam dressings for wound healing.

Guidelines

1. Bleach baths enhance skin barrier, reduce itch but do not normalize skin dysbiosis in atopic dermatitis.
2. S. aureus virulence factors decrease epithelial barrier function and increase susceptibility to viral infection.
3. Neutrophil extracellular traps enhance S. aureus skin colonization by oxidative stress induction and downregulation of epidermal barrier genes.
4. Therapeutic potential of ozone water treatment in alleviating atopic dermatitis symptoms in mouse models: Exploring its bactericidal and direct anti-inflammatory properties.
5. The immunological and structural epidermal barrier dysfunction and skin microbiome in atopic dermatitis-an update.
6. Photoactivated Gallium Porphyrin Reduces Staphylococcus aureus Colonization on the Skin and Suppresses Its Ability to Produce Enterotoxin C and TSST-1.
7. Temporal relationships between Staphylococcus aureus colonization, filaggrin expression, and pediatric atopic dermatitis.
8. History of S. aureus Skin Infection Significantly Associates with History of Eczema Herpeticum in Patients with Atopic Dermatitis.
9. Staphylococcus epidermidis activates keratinocyte cytokine expression and promotes skin inflammation through the production of phenol-soluble modulins.
10. Recurrent staphylococcal scalded skin syndrome in a 20-month old-A case report.
11. Emerging Trends and Focus in Human Skin Microbiome Over the Last Decade: A Bibliometric Analysis and Literature Review.
12. Spinal cord injury as a result of Staphylococcus aureus pyogenic spinal infection complicating infected atopic eczema: two case reports.
13. Multilocus-sequence typing reveals clonality of Staphylococcus aureus in atopic dermatitis.
14. Combining 16S Sequencing and qPCR Quantification Reveals Staphylococcus aureus Driven Bacterial Overgrowth in the Skin of Severe Atopic Dermatitis Patients.
15. The association between S. aureus colonization on cheek skin at 2 months and subsequent atopic dermatitis in a prospective birth cohort.
16. The role of bacterial colonisation in severity, symptoms and aetiology of hand eczema: The importance of Staphylococcus aureus and presence of commensal skin flora.
17. Effect of sphingosine and inoculum concentrations on Staphylococcus aureus and Staphylococcus epidermidis biofilms.

Other news of possible interest