

Sepil - A herbal wound healing potent antiseptic

Applications

Wound infections

- ▶ Diabetic Foot
 - ▶ Burns
 - ▶ Any kind of wound • Infective • Traumatic
 - ▶ Acute or Chronic Wounds
 - ▶ Venous and arterio-venous ulcers
 - ▶ Prevention of Surgical site infections
- ▶ Infections caused by either Gram-positive or Gram-negative organisms. Highly effective against pathogens of WHO CRITICAL Priority Pathogen List like Acinetobacter, Pseudomonas.

Inventor

Dr Vikas Gautam
 Professor (MBBS, MD, PhD, MNAMS, FRCP (Ed, 2015)
 Department of Medical Microbiology, PGIMER, Chandigarh, 160012

Categories of this invention

- ▶ Life Sciences (Biotechnology, Therapeutics)
- ▶ Research tools (Chromatography)
- ▶ Plant Biology (Herbal formulation)

Intellectual Property

Tradename (registered) - Sepil

Highly potent synergistic composition of jatyadi oil and *Achyranthes aspera* (apamarga) extract for therapeutic applications.
 Indian patent number: 353978

Approved by National Biodiversity Authority, 2020

Problem Addressed

Wounds (burn incidences, diabetic or chronic) in general are injuries that play an important part in shaping the physical, psychological and economical status of an individual. These isolates often produce biofilms and are known to be multidrug resistant (MDR) bacteria, which is a major concern worldwide. Chronic wounds like bedsores are also an ideal environment for biofilm formation. The risk of MDR bacteria is also high due to the increasing use of indwelling medical devices (IMD). Current methods available commercially are not able to promote rapid wound healing. The developed formulation is easy to apply and facilitates proliferation of the host cell that results in rapid wound healing leaving no scarring.

Technology

Uniquely structured LIPOGEL wherein the oily medicaments is exquisitely entrapped in its 3D network interwoven on a composite of EXCIPIENTS and solvents. The polyherbal formulation is prepared by mixing of multiple herbs/extracts to form a synergistic antibacterial activity which enhances the wound healing capability and particularly is potent against problematic MDR pathogens.

Potential Uses

Besides the present Oil formulation, it can be prepared as

- ▶ Liposomal Gel
- ▶ Nano-Oil
- ▶ Spray
- ▶ Hand sanitizer (Non-alcoholic)
- ▶ Disinfectant (Non-alcoholic)

Doing further Research, it can be developed for its use as

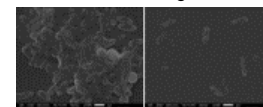
- ▶ OT instrument sterilisation
- ▶ Implant Coating
- ▶ Preservative in Drugs
- ▶ Antibiotic Lock Therapy
- ▶ Veterinary field

Advantages

- Polyherbal formulation (All the herbs well-defined in Ayurvedic Pharmacopoeia of India)
- No cytotoxicity (Cytotoxicity Assay at National Research Institute & at PGIMER, Chandigarh)
- No allergy
- Promotes wound Healing (Assay performed at PGIMER, Chandigarh)
- Safe to use in Paediatric age group (at any conc.)
- No chances of contamination with *Pseudomonas* spp.
- No chances of contamination with *Burkholderia* spp.
- No contamination of SEPIL leading on to Sepsis in a patient
- Has an intrinsic Analgesic effect (Ref: Ayurvedic Pharmacopoeia of India)
- No chemical burns caused
- No preservatives/emollients/dressing adhesives added in the oil
- Anti-Biofilm activity
- No Hypertrophic Scarring
- Sepil itself can be used for washing the wound instead of using any other additional agent like H₂O₂ etc.
- Effective in the presence of organic material

Laboratory experiments

BIOFILM DISRUPTION (SEM)
Pseudomonas aeruginosa



Untreated Treated (24hrs)

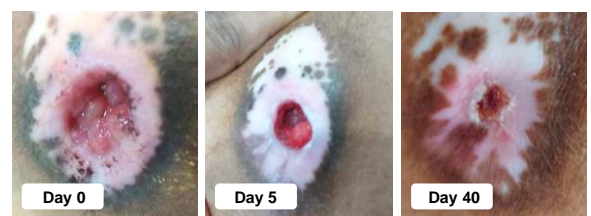
In vivo animal expts
Acinetobacter baumannii



Untreated Treated (24hrs)

Clinical Application

Case of non-Healing Bed Sore - Sepil applied ALONE



Reach Us

Dr Samuel Rout

Associate Manager, Technology Transfer Office, KIIT-TBI
 samuel@kiitincubator.in, tt@kiitincubator.in | +91-77353-89456 | tt.kiitincubator.in