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Review of antibacterial cream by using Tridex procumbence and Nutmeg for Ritters Disease

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Abstract

The goal of the study was to formulate a cream with composition for treating bacterial skin infection and which enhance skin properties. This formulation belongs to a medicinal cream that has two anti-bacterial active components. It reveals a formula for treating bacterial skin infections, as well as other components that can help improve skin issues. For skin infections, the topical approach is the best option. Because of the numerous advantages over traditional uses the development of topical drug delivery systems with systemic effects appears to be advantageous for a variety of medications. Tridex procumbence and Nutmeg are the active Herbal ingredients used to treat Bacterial skin infections. It may show antimicrobial and anti- inflammatory properties It also includes, waxy materials, solvents, preservatives, and water in the cream base. When the active components are combined, they provide a potent antibacterial effect. Several experiments were done on the basis of method and result we conclude that the drug giving [how many percentages of drug giving effect] to assess the physicochemical characteristics of formulated cream, such as visual inspection, pH measurement, Spread ability, etc. The medicated cream was good in consistency and color. This study focuses on the ritter disease by skin lesions and bacterial infection, poses a challenging for effective treatment. The disease primarily affects children under the age 5 years, but it can also occur in adults. The finding highlights the potential of Tridex procumbens and nutmeg use to treat ritters disease.

Keywords: Tridax procumbence , Nutmeg ,Antibacterial activity ,Staphylococcus aureus.

INTRODUCTION

Staphylococcal scalded skin syndrome (SSSS) is a rare but severe skin infection caused by the exfoliative toxins produced by the bacterium Staphylococcus aureus.

The disease, also known as Ritter's disease, is named after Gotfried Ritter who published case series of about 300 patients with SSSS in the 1800s .

Staphylococcus aureus is a significant cause of serious bacterial infections especially sepsis where it is commonly reported .

It is a significant public health concern due to its potential to cause significant morbidity and mortality, especially in infants and in immunocompromised individuals.

The syndrome is characterized by a spectrum of diffuse erythematous rash and skin peeling, which can lead to life-threatening complications .

It primarily affects children under the age of 5 years, but can also occur in adults. . The pathogenesis of s complex and involves the breakdown of desmoglein-1 present in the outer layer of the skin by the exfoliative toxins produced by S. aureus .

This results in the detachment of the top layer of the skin, causing the characteristic bliste-ring and peeling seen in S.

Diagnosis of SSSS is challenging and requires a high degree of clinical suspicion as the early stages of the disease can be easily mistaken for other common childhood illnesses such as pemphigus vulgaris and StevensJohnson syn-drome.

Treatment typically involves suppor-tive care, wound management, and antibiotics targeting the underlying S. aureus infection

TYPES OF CREAM

O/W EMULSIFIED TYPE	W/O EMULSIFIED TYPES
Vanishing cream	Cold cream
Foundation Cream	Emollent cream
Shaving cream	

LITERATURE REVIEW

1. Hanan Al Harbi, (2016) :

It is research article of antibacterial effect of Nutmeg extract have demonstrated antibacterial effect particularly on Staphylococcus as compared to antibiotic such as Gentamycin and Amikacin. Thus Nutmeg could be effective for prevention of bacterial infections and may be considered as alternative to antibiotic.

2. Rohan S. Pathak, (2018)

In that research article, extraction of Nutmeg powder are by water and methanol as a solvent. Antidiabetic activity of nutmeg extract was studied and compared its activity with standard as Metronidazole.

3 Anil K Saxena, (2017)

This study that Nutmeg extract shows antioxidant activity Antioxidants are substances that combine to neutralize reactive oxygen species preventing oxidative damage to cells and tissues. The cutaneous antioxidant system consists of enzymatic and non-enzymatic substance .

4. Anil saini (2018)15:

The author studied about classification of tridax procumbens chemical constituents of plants and their extracts process and various pharmacological property. This reaserch work to extract any new or known chemical constituents of tridax procumbens.

5. . Bharti [2021]22;here in they have discussed the antibacterial activity of methanolic extract of tridex procumbens andchia examined against E.coli ,klebsiella pneumonia ,salmonella thyphi ,bacillus cereas and staphyloccucs aureus .tridex procumbens showed effective inhibition against the staphylococcus auresthan compared

IDENTIFICATION TEST FOR ALKALOIDS

- Mayer's test
- Hager's test
- Drangendroff test
- Wangner test
- Identification test for Saponin
- Liberman Burachard test

EVLAUTION TEST

- PH: A digital PH metre was used to measure the PH of the produced herbal ointment. Ten millilitres of distilled water were used to produce the ointment solution, which was then left for five minutes.

- Colour and Odour: Visual inspection was used to assess physical characteristics including colour and smell.

- Spread ability: By sandwiching an extra sample between two slides that had been crushed to a consistent thickness by applying a specific weight for a specific amount of time, the spread ability was ascertained. Spread ability was calculated as the amount of time needed to separate the two slides. Improved spread ability is the outcome of taking less time to separate two slides. The formala used to calculate spread ability was as follows: S=ML/T Where, S- spread ability. Time taken in seconds.

- M- weight of sample in gramT

- Washability: The skin was treated with the formulation, followed by a gentle water wash and inspection.

- Non-irritancy: A human subject had the produced formulation applied to their skin, and the results were monitored.

- Stability : At 37°C for several physicochemical parameters, physical stability study tests of the formulation were conducted on the first day, after three months, and after six months, specifications. For six months, the formulation was determined to be physically stable at several

- physicochemical parameters.

- Antimicrobial activity: Using the ditch plate method, the produced gel's antimicrobial properties were investigated. It is a method mostly utilised in semisolid formulation for assessing a compound's bacteriostatic and fungistatic activities. Standard protocol was followed in the preparation and sterilisation of agar plates. A test formulation was used to fill a trench that was created in the middle of the agar plate. From the ditch to the plate's edge, the prepared culture loops were streaked at a straight angle across the

agar. The bacterial growth was monitored .

- Microbial growth: A microbial growth investigation was conducted using nutrient agar medium. Using this technique, gel samples were aseptically transferred in a cross pattern onto blank and sample Petri plates. The proliferation of microorganisms noted .

CONCLUSION

Our study looked at using extracts from Tridax procumbens and nutmeg to treat Ritter Disease. These extracts have promising qualities, specifically in reducing inflammation and fighting harmful microbes. This suggests that they could be helpful as additional treatments. However, more research is needed, especially in clinical trials, to confirm these findings. Our results provide a starting point for considering Tridax procumbens and nutmeg as potential additions to the tools we use to treat Ritter Disease. There are synthetic formulations are available in market like vaccine and antibiotics.

We find active chemical constituents in tridex procuremens and nutmeg by using soxhlet extraction method and we find alkaloids ,so we conclude that this drug having property as antibacterial on disease itay be effective on ritter disease on future prospect.

Declaration of Conflicting Interests

The authors declare no potential conflicts of interest with respect to the research, authorship and publication of this article.

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