



Antistretch Mark Gel

¹MISS. HEERA JADHAV, ²DR. KAVITA KULKARNI

¹Student (B Pharmacy), ²Principal (Phd in QA),

¹GMCP, Aurangabad India

Abstract : The goal of this study is to create an anti-stretch marks gel containing Centella asiatica (Gotu kola) extract. Centella asiatica is a valuable herb widely used in Asia and gaining popularity in the West. It has a diverse range of chemicals that have been used in traditional medicine for centuries and are now used in dermatology to manage stretch marks. Stretch marks can develop due to skin stretching from growing tissues underneath or from hormones like glucocorticoids. This study examines how Centella asiatica extract can reduce pigmentation and lines in stretch marks, increase skin moisture, and improve skin texture. The main active compounds in Centella asiatica, such as triterpenoids and saponins, are believed to be responsible for its healing effects. Coconut, scientifically called Cocos nucifera, thrives in coastal tropical areas and is highly tolerant to salt. Coconut oil is beneficial for various skin issues because it has antimicrobial properties, reduces inflammation, promotes wound healing, and protects the skin. Almond oil, known scientifically as Oleum amygdalae, has been used in alternative medicine for its potential health benefits, including reducing inflammation and potentially boosting the immune system. Although more scientific evidence is needed, almond oil is rich in nutrients and is commonly used in food and cosmetics.

IndexTerms – Natural remedies for stretch marks

I. INTRODUCTION

IN RECENT TIMES, THERE HAS BEEN A GROWING GLOBAL FOCUS ON PLANT RESEARCH, ACCUMULATING A SUBSTANTIAL BODY OF EVIDENCE THAT UNDERSCORES THE VAST POTENTIAL OF MEDICINAL PLANTS IN TREATING A WIDE RANGE OF MILD AND CHRONIC DISEASES WITHIN VARIOUS TRADITIONAL MEDICAL. CENTELLA ASIATICA (GOTU KOLA), AN URBAN PERENNIAL PLANT, THRIVES IN SWAMPY AREAS ACROSS TROPICAL AND SUBTROPICAL REGIONS SUCH AS INDIA, SOUTHEAST ASIA, MALAYSIA, AND EVEN CERTAIN TEMPERATE ZONES. CENTELLA ASIATICA (GOTU KOLA), ALSO KNOWN AS INDIAN PENNYWORT OR MANDUKPARNI, IS A REVERED MEDICINAL PLANT UTILIZED ACROSS ASIA, INCLUDING IN CHINA, KOREA, JAPAN, AND TAIWAN. IN THE AYURVEDIC TRADITION OF INDIA, IT HAS BEEN EMPLOYED FOR MILLENNIA TO TREAT INFECTIOUS SKIN DISEASES, PROMOTE WOUND HEALING, AND IS DOCUMENTED IN ANCIENT TEXTS SUCH AS THE 'SUSHRUTASAMHITA'. CENTELLA ASIATICA LEAVES, WHICH ARE EDIBLE AND CHARACTERIZED BY THEIR YELLOWISH-GREEN COLOR AND DISTINCTIVE SHAPES LIKE RENIFORM OR OBLONG-ELLIPTIC, CONTAIN TRITERPENES KNOWN AS CENTELLOIDS. THESE COMPOUNDS, SUCH AS ASIATIC ACID (AA), ASIATICOSIDE (AS), MADECASSOSIDE (MS), AND MADECASSIC ACID (MA), PLAY A CRUCIAL ROLE IN COLLAGEN FORMATION. THEY ENHANCE THE METABOLISM OF LYSINE, PROLINE, AND OTHER AMINO ACIDS, AND PROMOTE THE SYNTHESIS OF TROPOCOLLAGEN AND MUCOPOLYSACCHARIDES, CONTRIBUTING TO IMPROVED SKIN ELASTICITY AND FIRMNESS. COCONUT, SCIENTIFICALLY KNOWN AS COCOS NUCIFERA, HAS GARNERED RENEWED ATTENTION IN WESTERN MEDICINE DUE TO ITS DIVERSE NUTRITIONAL AND MEDICINAL BENEFITS. COMPONENTS LIKE TENDER COCONUT WATER AND KERNEL ARE BELIEVED TO POSSESS VARIOUS MEDICINAL QUALITIES, INCLUDING ANTIBACTERIAL, ANTIVIRAL, ANTIFUNGAL, AND ANTIOXIDANT PROPERTIES, ALONG WITH A LOW GLYCEMIC INDEX.

Objective

- To develop various Formulation.
- To perform physicochemical characterization.
- To achieve maximum stability of formulation.
- To achieve maximum reduction of stretch marks. Literature review

SR No. TITLE AUTHOR NAME JOURNAL NAME PUBLISH YEAR

1 Topical tretinoin in the treatment of striae distensae and in the promotion of wound healing : a review Elson MLJournal of dermatological treatment 2009

2 Percutaneous collagen induction therapy as a novel therapeutic option for striae distensae Matthias C Aust National library of medicine 2010

3 Stretch marks Amanda M. Oakley; Bhupendra C. Patel. National library od medicine 2023

Material and method

Maceration, a method where plant materials are soaked in a solvent at specific conditions, is versatile despite its drawbacks like long extraction times, high temperature requirements, and large solvent volumes, making it suitable for obtaining a wide range of bioactive compounds from plants like *C. asiatica*.

Method of preparation

The dispersion process involved stirring the gelling agent in water at 1200 rpm for 30 minutes, ensuring thorough dispersion. Next, the nonaqueous solvent was employed to dissolve the drug. Additionally, the preservative was incorporated. During the subsequent step, continuous stirring was maintained while introducing this solution into the gel. The formulation of an anti-stretch marks gel using *Centella asiatica* extract has shown efficacy in reducing skin pigmentation and stretch marks, while also enhancing skin moisture and texture. Studies highlight the active ingredients like madecassol, which includes madecassic acid, asiatic acid, and Asiaticoside, known for promoting wound healing and fibroblast proliferation. Several topical products targeting stretch marks focus on mechanisms such as collagen stimulation, increased elasticity, cell proliferation improvement, antiinflammatory effects, and hydration. *Centella asiatica* is a key component in these formulations, recognized for its potential to stimulate cell production and contribute to reducing the severity of stretch marks according to literature reviews.

Conclusion

In conclusion, the administration of Gotu Kola Extract (*Centella asiatica*) gel effectively reduces lines in stretch marks and skin pigmentation, while increasing skin moisture and refining skin texture. The biological effects of *Centella asiatica* are primarily attributed to its major triterpene derivatives such as asiatic acid, madecassic acid, Asiaticoside, madecassoside, and brahmic acid. This plant has been recognized for its neuroprotective effects, possibly mediated through various mechanisms that positively influence oxidative stress parameters. Medicinal plant research, particularly focusing on *Centella asiatica*, has gained prominence due to its traditional uses and therapeutic properties in treating various diseases including epilepsy, aging, neurological disorders, skin ailments, and diabetes. Additionally, it inhibits inflammation in conditions like hypertrophic scars and minor scratches. Systematic reviews suggest that *Centella asiatica* treatment may reduce stretch marks and enhance wound healing by promoting angiogenesis and exerting antiinflammatory effects. These properties contribute to decreased swelling, redness, pain, and other inflammatory markers in affected areas. L.

Reference

1. ML. Topical tretinoin in the treatment of striae distensae and in the promotion of wound Healing: a review. *J Dermatol Treat* 1994.
2. Aust MC, Knobloch K, Vogt PM. 2010.
3. Prevention and therapy of striae and albae. *Journal of the European Academy of Dermatology, Venereology*.