Introduction

- Cysteamine hydrochloride is known for its potent depigmenting effect since 1960's when it was tested by injecting cysteamine into black goldfish skin (1). A few years later, in vivo studies showed the higher depigmenting efficacy of this molecule compared to hydroquinone (2).
- In addition, cysteamine also has known anti-carcinogenic and anti-melanoma effects.
- Superiority to hydroquinone was confirmed in vivo (3). However, cysteamine has never been utilisable in humans for topical therapy mainly due to the very offensive odor.
- An innovative technology has now been released to decrease the odor in cysteamine. Cysteamine thus became utilisable for the first time in a topical product. This product showed a significant melanogenesis inhibiting effect in different in vitro and in vivo models.

Mechanism of Action

- Double enzyme inhibition: tyrosinase and peroxidase inhibitors
- Dopaquinone quenching: removing dopaquinone from the pathway
- Inhibition of Fenton-type reactions through iron and copper ion quenching
- Reduction of melanin in the stratum corneum into a lighter form through antioxidant effect

Safety

- Cysteamine is biologically produced in mammalian cells and serves as an intracellular anti-oxidant.
- It has a long history of safety for human use.
- Cysteamine is a natural compound and can even be found in foods we eat, with highest concentrations in human breast milk.

Methods and Materials

- 50 subjects
- Subjects with mild to severe melasma
- Fitzpatrick skin types: III-IV
- Age of participants between 23-50 years old
- Products used: Syndet bar, Cysteamine Cream & SPF 50
- Duration: 16 weeks
- Evaluations: Clinical assessment for pigmentation, Wood’s lamp, mexameter, digital imaging, and MASI scoring

Clinical Study Efficacy Results

- 67% reduction of melanin index
- 58% reduction of MASI score

References


Case Studies in Practice

54 year old African American Female; Diagnosis: PIH secondary to Contact Dermatitis, Pseudofolliculitis Barbae/PIH; Treatment: Cyspera® QHS x 15 min, 3 months duration

After Cyspera® peri-ocular application, 10 weeks duration

39 year old African American female; Diagnoses: PIH post Acne Vulgaris, Treatment: Cyspera®, 3 months duration

51 year-old African American Male; Diagnoses: Melasma and Seborrheic Dermatitis

Treatment: SPF 30 QAM and Cyspera® QHS x 15 minutes initially, then was switched to 20 minutes after 3 months of inconsistent use. Then after an additional 2 months of consistent, nightly use of 20 min of Cyspera®, his biggest improvement was seen.