



CLINICAL OUTCOMES OF AMMONIUM LACTATE 12% IN PATIENTS WITH SEVERE XEROSIS & KERATOSIS PILARIS: A CASE SERIES

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ABSTRACT Xerosis, characterized by dry, rough, and scaly skin, and keratosis pilaris (KP), identified by small, rough bumps, significantly impact skin health and quality of life. This study evaluates the safety and efficacy of Lacerderm® Lotion (ammonium lactate 12%) in treating these conditions. The study enrolled three patients presenting with symptoms of xerosis or KP. Treatments included Lacerderm Lotion applied either once or twice daily, combined with adjunct therapies such as chemical peels, laser-based treatments, and SPF 50 sunscreen. Over a three-month period, significant improvements in hydration, skin texture, and reduction of symptoms such as itching, scaling, and roughness were observed. Lacerderm Lotion's dual action as a humectant and exfoliant demonstrated its efficacy in alleviating the symptoms of xerosis and KP, restoring the skin's natural barrier and preventing recurrences. This non-greasy formulation enhances adherence and ensures long-term benefits, making it a well-tolerated option for managing these conditions.

KEYWORDS : Ammonium lactate 12%, Keratosis Pilaris (KP), Xerosis**INTRODUCTION**

Xerosis, commonly referred to as dry skin³, and Keratosis Pilaris (KP) are widespread skin conditions that affect a large number of individuals. Xerosis occurs when the skin fails to retain adequate moisture, resulting in dryness, scaling, and itching. It can be caused by various factors, including environmental conditions, aging, and other skin disorders. On the other hand, KP is characterized by the development of small, raised, rough bumps on the skin, primarily on the upper arms, thighs, and buttocks¹. Both conditions can cause significant discomfort, and their management remains a challenge for many patients.

LACDERM® lotion (Ammonium Lactate 12%), a topical formulation, contains ammonium lactate. Ammonium lactate 12% acts as a modulator of skin keratinization, which also are α -hydroxy acids³, which is known to provide effective treatment for both xerosis and KP due to its exfoliating and hydrating properties. This study aimed to assess the safety and efficacy of LACDERM® lotion in improving skin texture, hydration, and overall skin health in patients suffering from these conditions.

MATERIALS AND METHODS:**Study Design:**

A randomized, open-label study was conducted over a 3-month period. The study enrolled two groups of patients diagnosed with xerosis and KP. The first patient included a 29-year-old female with KP, the second patient consisted of a 40-year-old female with xerosis & the third patient included a 68-year female with xerosis & pigmentation on foot.

Treatment Regimen:

3 Patients were instructed to apply LACDERM® lotion (Ammonium Lactate 12%) to the affected areas once or twice daily, depending on the condition. The KP patient also received complementary treatments such as chemical peels, dermabrasion, microneedling radiofrequency (MNRF), and SPF 50 sunscreen, while the xerosis patient was additionally treated with carbon or glycolic acid peels and SPF 50 sunscreen. Xerosis with pigmentation patient was additionally treated with carbon or glycolic acid peels.

Outcome Measures:

Efficacy was assessed based on subjective reports from the patients regarding skin texture, hydration, itching, and scaling, as well as physician assessments of skin roughness, bumpiness, and overall improvement. Follow-up evaluations were conducted at baseline, 1 month, 2 months, and 3 months.

RESULTS:**Patient 1 (Keratosis Pilaris):**

The 29-year-old female with KP reported significant improvements in skin texture and hydration after using LACDERM® lotion in combination with chemical peels, dermabrasion, MNRF, and SPF 50 for 3 months. At the 3-month follow-up, both the physician and

patient noted a marked reduction in skin roughness, bumpiness, and dryness. The treatment was well tolerated with no adverse effects.



Figure 01: Before & after picture of Keratosis pilaris patient using ammonium lactate 12%.

Patient 2 (Xerosis):

The 40-year-old female with xerosis applied LACDERM® lotion twice daily, along with carbon or glycolic acid peels and SPF 50. After 3 months, the patient reported a significant reduction in dryness, itching, scaling, and the sensation of tightness. The skin appeared visibly smoother and more hydrated, with no further incidents of cracking or inflammation. The physician also observed marked improvement in skin texture and elasticity.



Figure 02: Before & after picture of Xerosis patient using ammonium lactate 12%.

Patient 3 (Xerosis With Pigmentation): A 68-year-old female with a 5-year history of xerosis, along with diabetes and hypertension, was diagnosed with xerosis accompanied by pigmentation. The patient was treated using LACDERM LOTION, applied twice daily, in combination with carbon peel or glycolic acid peel. This treatment approach led to a marked improvement, significantly reducing skin

dryness, wrinkles, pigmentation, and itching.



Figure No. 03: Before & after picture of Xerosis with pigmentation patient using ammonium lactate 12%.

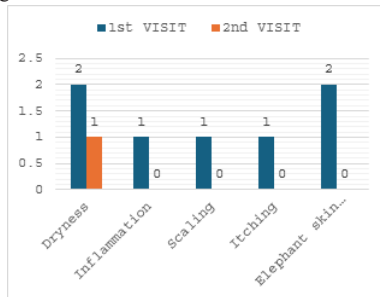


Figure 04: Comparison Of Severity Score In Keratosis Pilaris Patient

Table – 1 Severity Score In Keratosis Pilaris Patient

	Score at 1st VISIT	Score at LAST VISIT
DRYNESS	2	1
Inflammation	1	0
Scaling	1	0
Itching	1	0
Elephant skin (THICK SKIN)	2	0

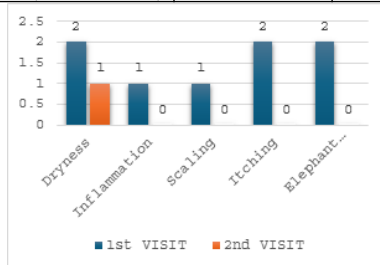


Figure 05: Comparison Of Severity Score In Xerosis Patient

Table – 2 Severity Score In Xerosis Patient

	Score at 1st VISIT	Score at LAST VISIT
DRYNESS	2	1
Inflammation	1	0
Scaling	1	0
Itching	2	0
Elephant skin (THICK SKIN)	2	0

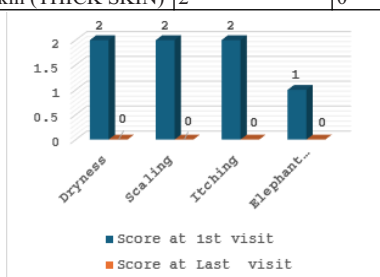


Figure 06: Comparison Of Severity Score In Xerosis With Pigmentation Patient

Table – 2 Severity Score In Xerosis With Pigmentation Patient

	Score at 1st visit	Score at Last visit
Dryness	2	0
Scaling	2	0
Itching	2	0
Elephant skin (THICK SKIN)	1	0

DISCUSSION:

Ammonium lactate, the active ingredient in LACDERM® lotion, is a combination of lactic acid and ammonium hydroxide, which acts as both an exfoliant and a humectant. In the case of KP, ammonium lactate helps exfoliate the keratin plugs blocking the hair follicles, resulting in a reduction in the rough, bumpy texture. Similarly, in xerosis, ammonium lactate functions to restore moisture balance, alleviating dryness and scaling, and promoting overall skin hydration and softness.

In our study, 3 patients demonstrated significant improvement in their respective conditions with the application of LACDERM® lotion. In the KP patient, the lotion effectively reduced the rough texture and bumpy appearance, leading to smoother skin. In the xerosis patient, it relieved symptoms of dryness, tightness, and itching, and helped restore a more hydrated and supple skin texture. In Xerosis with Pigmentation marked improvement in skin hydration and texture, along with reduced pigmentation, wrinkles, and itching.

Furthermore, the combination of LACDERM® lotion with adjunctive therapies such as chemical peels, dermabrasion, and MNRF provided additional benefits in both conditions, enhancing the overall treatment outcomes.

CONCLUSIONS

LACDERM® lotion (Ammonium Lactate 12%) is an effective and well-tolerated treatment for both Keratosis Pilaris and Xerosis. The results of this 3-month clinical study indicate that the lotion significantly improved skin texture, hydration, and overall skin health. Its dual action of exfoliating and hydrating makes it an ideal therapeutic option for these common dermatological conditions. Based on the findings, LACDERM® lotion can be considered a viable treatment for patients suffering from KP and xerosis.

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