COMPOUNDING IDEAS FOR DERMATOLOGY - ECZEMA/PSORIASIS

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MOSS COMPOUNDING PHARMACY

TOPICS FOR DISCUSSION

- Unique Ingredients for Eczema/Psoriasis
- Compound Ideas using these Ingredients

COMMON INGREDIENTS IN COMPOUNDING FOR ECZEMA/PSORIASIS

- Corticosteroids - Betamethasone, Clobetasol, Triamcinolone, Fluocinolone
- Zinc Pyrithionone - scalp psoriasis/seborrheic dermatitis
- Selenium Sulfide - scalp psoriasis/seborrheic dermatitis
- Coal Tar Solution (LCD)
- Tacrolimus
- Diphenhydramine
- Urea
- Ketotifen – mast cell stabilizer
- Naltrexone – immune modulating effects (0.5-1%)
- Cyanocobalamin – atopic dermatitis/eczema/mild-mod plaque psoriasis (MOA-reduction in NO production)
- Vitamin D3

Dermatological Preparations - Eczema/Psoriasis/Atopic Dermatitis

Name	Active Ingredient(s) & Strength	Dosing Recommendations	Notes
Moss Scaly Skin Cream	Proprietary blend of lipid replenishing & hydrating agents	Apply BID – TID PRN (eczema/psoriasis)	OTC or can be mixed with other Rx ingredients
Cyanocobalamin 0.07% Topical Cream	Cyanocobalamin	Apply BID for excema/psoriasis	Can be mixed with Moss Scaly Skin Cream (Price = $65/120gm Various Strengths available (up to 1%)
Ketotifen 0.05%/ Cyanocobalamin 0.07% in Xematop Cream	Ketotifen 0.05%/ Cyanocobalamin 0.07%	Apply BID for Atopic Dermatitis	
Naltrexone 0.5% Topical Lotion	Naltrexone 0.5%	Apply to AA QD – BID	Can increase up to 1%
Fluticasone 0.05%/ Naltrexone 1% topical Lotion	Fluticasone 0.05%/ Naltrexone 1%	Apply to AA BID	Alternative to Cutivate Lotion Eczema/AD
Fluocinolone 0.01%/ Ketotifen 0.05% in Xematop Cream	Fluocinolone 0.01%/ Ketotifen 0.05%	Apply to AA BID	Alternative to Derma-Smooth FS Atopic Derm
Betamethasone Diproprionate/Urea Shampoo	Betamethasone Dip 0.05%/ Urea 2.25%, Zinc Pyrithione, Selenium Sulfide	Wash scalp once daily for 1-2 weeks, then use once – twice weekly. Leave shampoo on scalp for 3-5 minutes, then rinse.	Scalp Psoriasis Can increase urea (5%) to help reduce thick plaque Price = $40/4oz
Zinc Pyrithione0.2%/ Clobetasol 0.05%/ Cyanocobalamin 0.07% Xematop Cream	Zinc Pyrithione0.2%/ Clobetasol 0.05%/ Cyanocobalamin 0.07%	Apply to AA BID	Alternative to Olux Foam
LCD CMP Ointment	sulfur, salicylic acid, coal tar, castor oil	Apply QD – BID (psoriasis)	Dispensed as 60 grams
Coal Tar Ointment	coal tar (1-5%)	Apply to skin BID-QID (psoriasis)	Dispensed as 60 grams

Medication Guide Document available in Prescriber Online Learning Center @ Mosscompounding.com

TOPICAL BASE OPTIONS

PCCA XemaTop™

Patent-Pending Technology

For Use in Formulations for Patients with Eczema, Psoriasis and Xerosis

PCCA # **30-4891**

PCCA EXCLUSIVE

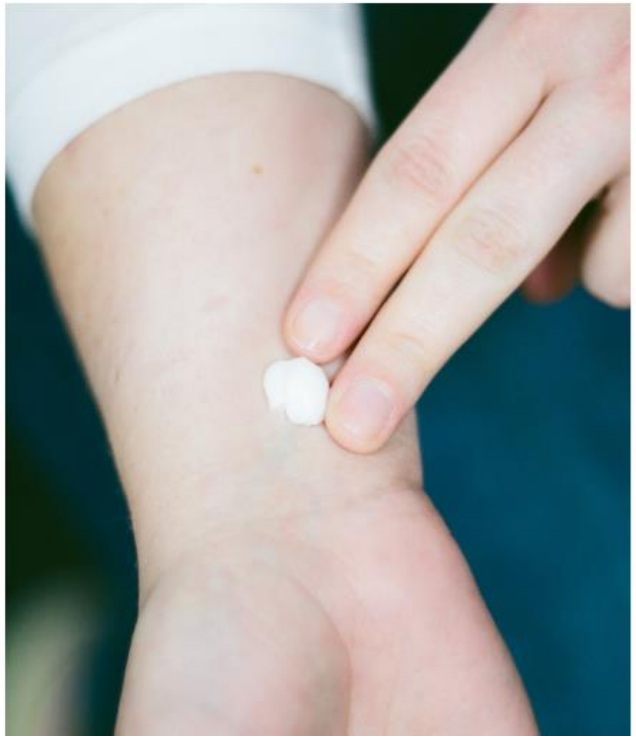
Targeted nourishment.

XemaTop is a base designed for use in compounding formulations for patients with eczema, psoriasis and xerosis (dry skin).

It uses the power and synergy of natural boswellic acid, avenanthramides from oats, phosphatidylglycerol and elegant film formers to deliver and potentially improve the action of common active pharmaceutical ingredients (APIs) used in formulations for these patients.[1]

BENEFITS

- Quickly replenishes the lamellar bilayers of the skin
- Nourishes the skin's structural integrity
- Improves the appearance of red and irritated skin
- Helps restore the skin's barrier to prevent water loss
- Non-comedogenic



XEMATOP CREAM

TECHNICAL REPORT

XemaTop™

Evaluation of Different Formulations Applied to Psoriasis Tissue (Part 1/3)

Table 1. Mean IL-6 concentrations ± SD detected following application of the test formulations.

Test Formulations	Mean IL-6 (pg/mL) ± SD	*P*-value (negative control)	*P*-value (positive controls)
Negative control (untreated tissues)	528.864 ± 12.153	_____	_____
Mometasone furoate 0.1% in XemaTop	79.713 ± 9.596	$1.763E^{-09}$	0.040
Calcitriol 3 mcg/g in XemaTop	54.023 ± 7.096	$7.125E^{-10}$	0.001
Mometasone Furoate Ointment USP 0.1%	113.902 ± 15.439	$5.200E^{-06}$	_____
Vectical® (calcitriol) Ointment 3 mcg/g	106.898 ± 15.212	$1.009E^{-08}$	_____

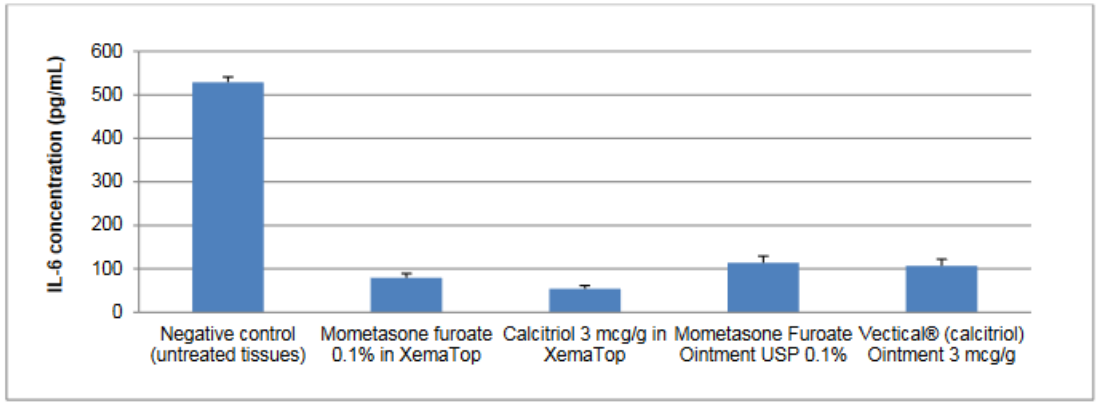


Figure 2. Mean concentration of IL-6 ± SD detected in collected culture media following the application of 4 test formulations.

When Mometasone Furoate 0.1% in XemaTop and Calcitriol

JOURNAL ARTICLE | ABSTRACT

PCCA XemaTop™

In Vitro Evaluation of Naltrexone HCl 1% Topical Cream in XemaTop™ for Psoriasis

Citation

Ip K., Song G, Banov D, Bassani AS, and Valdez BC. *Archives of Dermatological Research*. 2019 Oct 30. doi: 10.1007/s00403-019-01981-2.

Abstract available at: https://doi.org/10.1007/s00403-019-01981-2

Authors:

Kendice Ip, Guiyun Song, Daniel Banov, August S. Bassani, Benigno C. Valdez

Issue:

First Online: 30 October 2019

Abstract:

Psoriasis is a multifactorial skin disease involving abnormal cell proliferation and inflammation; an efficacious topical treatment is yet to be identified. A formulation containing 1% Naltrexone HCl in XemaTop™ base was compounded, characterized and evaluated in vitro as a possible treatment for psoriasis. A three-dimensional psoriasis tissue model was exposed to the formulation for 2 or 5 days and analyzed for the level of markers of cellular proliferation, and inflammatory cytokine IL-6. Using immunohistochemical staining, the level of Ki67 protein significantly decreased in the drug-treated tissues. Western blot analysis showed 86% and 53% down-regulation of other proliferation markers PCNA and CYCLIN D1, respectively, after 5-day exposure. The pro-survival Wnt/β-catenin pathway was compromised as indicated by 57% decrease in the level of β-CATENIN and down-regulation of its down-stream targets including CYCLIN D1 (decreased by 53%), c-MYC (63%), c-JUN (92%) and MET (96%) proteins. Likewise, the PI3K/AKT/mTOR pathway was significantly inhibited by 1% Naltrexone HCl in XemaTop™, suggesting protein synthesis was affected. The production of IL-6 was inhibited by 70% in drug-treated tissues. These results suggest that the compounded drug is efficacious in down-regulating molecular markers associated with the pathogenesis of psoriasis. Low-dose Naltrexone in XemaTop™ was stable within 180 days when stored under refrigerated or ambient conditions. These results provide a basis for a clinical evaluation of 1% Naltrexone HCl in XemaTop™ in psoriasis patients.

Management of Psoriasis with a XemaTop Topical Compounded Formula: A Case Report

Nat Jones, RPh, FIACP
Maria Carvalho, PharmD, MRPharmS, PhD
Andrea Branvold-Herr, MS, RPh

ABSTRACT Skin conditions such as psoriasis and eczema negatively impact the patient's quality of life; the primary goal of topical treatments is to minimize the disease-specific symptoms. This case report discusses the management of two refractory psoriasis skin lesions in an adult male using a topical compounded formula. The psoriasis symptoms were assessed quantitatively using two validated research instruments, the Psoriasis Symptom Inventory, and an adapted Numeric Rating Scale. A qualitative assessment was also performed by evaluating the digital photographs taken by the patient during the course of treatment. The compounded formula containing zinc pyrithione, clobetasol propionate, and cyanocobalamin in the Professional Compounding Centers of America's proprietary base PCCA XemaTop, applied topically for three weeks, significantly reduced the patient's self-reported psoriasis symptoms and improved his overall condition by 81.2%. This successful case report is important evidence for healthcare professionals when considering new, innovative topical compounded formulas for managing skin conditions such as psoriasis and eczema.

PSORIATIC INFLAMMATION

The authors are affiliated with the Professional Compounding Centers of America (PCCA), Houston, Texas in the following capacities: **Nat**

CASE REPORT

The patient is a 33-year-old Caucasian male who has had plaque psoriasis since age 19. He has mostly small plaque type psoriasis lesions scattered over 75% of his body, but the largest and worse lesions are on his back. The patient's medical history is remarkable for an allergy to penicillin and peanuts; his maternal grandmother had psoriasis; he was diagnosed with Hodgkin lymphoma when he was young and had his spleen removed, with full remission by age 18.

The patient has tried topical manufactured treatments in the past, namely: Triamcinolone Acetonide 0.05% Augmented Ointment and Desonide 0.05% Carbomer Gel. The most recent treatment was apremilast oral tablets (titrated up to 30 mg twice daily) for four months, with only minor results. He stopped this treatment three weeks prior to initiating a new XemaTop topical compounded formula.

The cytostatic actions suppress cellular growth and multiplication, resulting in a reduction in the turnover of epidermal cells also making it suitable for a hyperkeratotic state such as psoriasis.

With direction from the pharmacist, the patient chose to apply the XemaTop topical compounded formula to two specific lesions, one on his lower left abdomen and one on his upper left arm (triceps area). A total of 300 g were dispensed to the patient, and the formula was applied to the affected areas twice daily, once in the morning and once in the evening. The compounded formula contained zinc pyrithione 0.2%, clobetasol propionate 0.05%, and cyanocobalamin 0.07% in XemaTop topical cream (see provided formula).

Zinc pyrithione is thought to treat skin conditions (dandruff and seborrheic dermatitis) by its actions as a cytostatic agent and through its anti-fungal and anti-bacterial activity. The cytostatic actions suppress cellular growth and multiplication, resulting in a

Rx

XEMATOP TOPICAL COMPOUNDED FORMULA APPLIED TO THE PATIENT'S PSORIASIS LESIONS

For 100 g

Zinc pyrithione (48%) min. aqueous dispersion		0.417 g
Clobetasol Propionate Micronized		0.05 g
Cyanocobalamin		0.07 g
Purified Water		5 mL
Base, PCCA XemaTop	qs	100 g

METHOD OF PREPARATION

1. **Add Cyanocobalamin to Purified Water in an appropriate-size beaker. Use an amount of Purified Water that is approximately 80% of the specified amount. Mix well until dispersed and most of the solid is dissolved.**
2. **Add PCCA XemaTop Base in an appropriate-size electronic mortar and pestle (EMP) jar. Use an amount that is approximately 50% of the final weight.**
3. **Add the mixture from Step 1 to the mixture from Step 2.**
4. **Rinse the Step 1 beaker with Purified Water and combine the rinsing into the Step 3 EMP jar. Use an amount of Purified Water that is approximately 20% of the specified amount.**
5. **Add the zinc pyrithione and Clobetasol Propionate to the mixture from Step 4, then bring to the final weight with PCCA XemaTop Base.**
6. **Mix the mixture from Step 5 with the EMP for 2 minutes on a medium setting.**
7. **Process the mixture from Step 6 through an ointment mill (setting of 2) 1 time to reduce the particle size of the active ingredients and to eliminate any grittiness of the final preparation.**
8. **Return the mixture from Step 7 to the EMP jar and mix again for 1 minute on a low setting.**
9. **Package and label the preparation.**

are commonly prescribed to these patients. Clobetasol propionate 0.05% may be used alone or in combination with other APIs, traditionally in an ointment vehicle, though newer, less "messy" vehicles are likely to promote treatment compliance and thus therapeutic efficacy.[10]

Cyanocobalamin has been effectively used topically to treat

XEMATOP

Rx

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Cyanocobalamin		0.07 g
Purified Water		5 mL
Base, PCCA XemaTop	qs	100 g

METHOD OF PREPARATION

1. Add Cyanocobalamin to Purified Water in an appropriate-size beaker. Use an amount of Purified Water that is approximately 80% of the specified amount. Mix well until dispersed and most of the solid is dissolved.
2. Add PCCA XemaTop Base in an appropriate-size electronic mortar and pestle (EMP) jar. Use an amount that is approximately 50% of the final weight.
3. Add the mixture from Step 1 to the mixture from Step 2.
4. Rinse the Step 1 beaker with Purified Water and combine the rinsing into the Step 3 EMP jar. Use an amount of Purified Water that is approximately 20% of the specified amount.
5. Add the zinc pyrithione and Clobetasol Propionate to the mixture from Step 4, then bring to the final weight with PCCA XemaTop Base.
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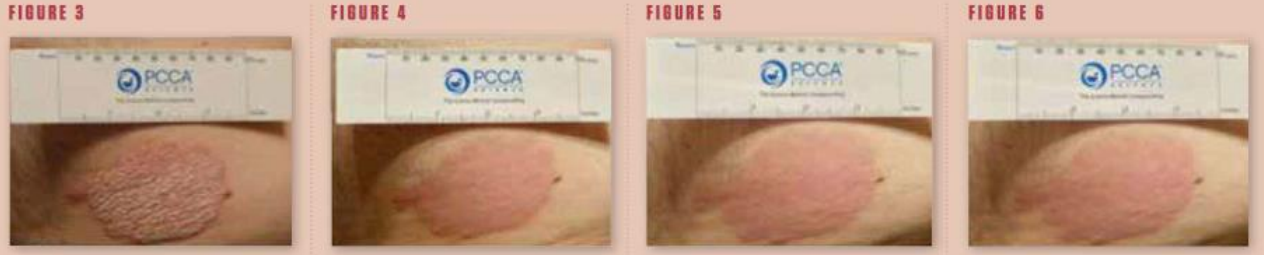
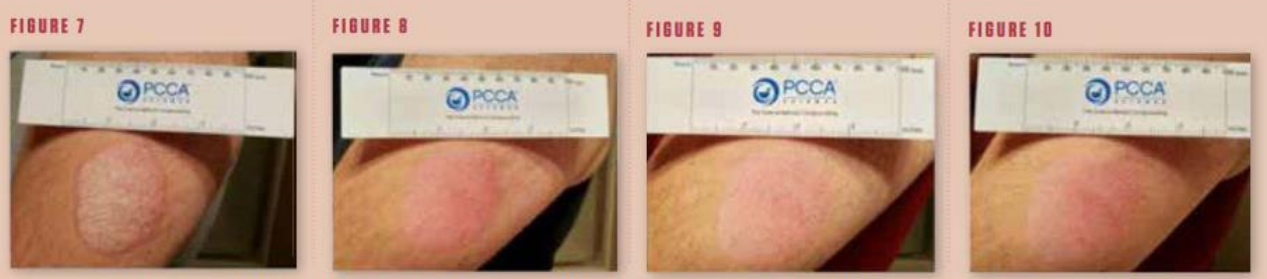
8. Return the mixture from Step 7 to the EMP jar and mix again for 1 minute on a low setting.
9. Package and label the preparation.

Psoriasis

DIGITAL IMAGES OF THE PATIENT'S LEFT LOWER ABDOMEN PSORIASIS LESION: BEFORE (FIGURE 3), ONE-WEEK (FIGURE 4), TWO-WEEKS (FIGURE 5), AND AFTER (FIGURE 6) THE TOPICAL COMPOUNDING TREATMENT.





DIGITAL IMAGES OF THE PATIENT'S LEFT UPER TRICEP PSORIASIS LESION: BEFORE (FIGURE 7), ONE-WEEK (FIGURE 8), TWO-WEEKS (FIGURE 9), AND AFTER (FIGURE 10) THE TOPICAL COMPOUNDING TREATMENT.

QUESTIONS?

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