

# Formulation And Development of Anti Ageing Cream by Herbal Extract of Pomegranate and Beclometasone

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**Abstract-** The increasing preference for natural skincare products has driven interest in the use of herbal extracts in cosmetic formulations. This review examines the formulation and development of an anti-aging cream containing pomegranate extract and beclometasone. Pomegranate extract, rich in antioxidants, is known for its ability to combat aging effects, while beclometasone, a corticosteroid, offers anti-inflammatory benefits. The combination of these ingredients is intended to synergistically reduce signs of aging, enhance skin elasticity, and promote a youthful appearance. This article provides detailed formulation insights, composition, and scientific references supporting the efficacy of these ingredients.

## INTRODUCTION

Aging is an inevitable biological process characterized by a decline in physiological functions and the appearance of visible signs such as wrinkles, fine lines, and age spots. The cosmetic industry has long sought effective anti-aging solutions, and herbal extracts have gained popularity due to their natural origin and minimal side effects. Pomegranate extract, known for its potent antioxidant properties, and beclometasone, a corticosteroid with anti-inflammatory properties, have been identified as promising ingredients in anti-aging formulations[1].

## FORMULATION DETAILS

### Pomegranate Extract

Pomegranate (*Punica granatum*) is a fruit rich in antioxidants, particularly ellagic acid, which helps protect the skin from oxidative stress and promotes regeneration. Several studies have demonstrated that pomegranate extract can stimulate collagen production, improve skin elasticity, and reduce the appearance of wrinkles. Its high antioxidant content

helps neutralize free radicals, thereby preventing premature skin aging [2].

### Beclometasone

Beclometasone is a corticosteroid used primarily for its anti-inflammatory properties. It helps reduce inflammation and prevent skin irritation, which can exacerbate the signs of aging. Although the prolonged use of corticosteroids can lead to side effects, controlled amounts in cosmetic formulations can be beneficial for reducing skin inflammation and promoting a smoother, more youthful appearance[3].

### Composition

The anti-aging cream is formulated with a base cream consisting of emollients, humectants, and stabilizers to ensure proper texture and stability. The primary active ingredients are pomegranate extract and beclometasone, supplemented with additional natural extracts and vitamins to enhance the product's overall efficacy [4].

### Base Cream Ingredients

- Water (Aqua)
- Glycerin
- Cetyl Alcohol
- Stearic Acid
- Caprylic/Capric Triglyceride
- Phenoxyethanol

### Active Ingredients

- Pomegranate Extract: 5% w/w
- Beclometasone: 0.05% w/w

### Supplementary Ingredients

- Vitamin E: 1% w/w
- Aloe Vera Extract: 2% w/w
- Hyaluronic Acid: 1% w/w

## BENEFITS AND EFFICACY

### Antioxidant Activity

Pomegranate extract is known for its high antioxidant content, which helps neutralize free radicals, reducing oxidative stress and preventing premature skin aging. Antioxidants play a crucial role in protecting the skin from environmental damage and promoting skin regeneration. The inclusion of pomegranate extract in the anti-aging cream helps improve skin elasticity and reduces the appearance of wrinkles, giving the skin a more youthful appearance [5].

### Anti-Inflammatory Properties

Beclometasone's anti-inflammatory effects help soothe the skin, reduce redness, and prevent irritation, which can exacerbate the appearance of aging. Inflammation is a significant factor in skin aging, and reducing inflammation can help maintain a smoother and more youthful complexion. The controlled use of beclometasone in the anti-aging cream ensures that its benefits are maximized while minimizing potential side effects [6].

### Skin Hydration

Including humectants like glycerin and hyaluronic acid ensures that the skin remains hydrated, crucial for maintaining a youthful appearance. Humectants attract moisture to the skin, keeping it plump and reducing the appearance of fine lines and wrinkles. Hydrated skin is more resilient and less prone to the signs of aging. The combination of these humectants in the anti-aging cream helps improve skin texture and overall appearance [7].

## MECHANISM OF ACTION

### Pomegranate Extract

The primary mechanism by which pomegranate extract exerts its anti-aging effects is through its antioxidant activity. Antioxidants like ellagic acid help protect the skin from oxidative damage caused by free radicals, which are generated by UV radiation and environmental pollutants. By neutralizing these free radicals, pomegranate extract prevents collagen degradation and promotes skin regeneration. Additionally, pomegranate extract has been shown to stimulate the production of collagen and elastin,

proteins essential for maintaining skin elasticity and firmness [8].

### Beclometasone

Beclometasone exerts its effects primarily through its anti-inflammatory properties. Inflammation is a significant contributor to skin aging, as it accelerates the breakdown of collagen and elastin. Beclometasone inhibits the release of inflammatory mediators, thereby reducing inflammation and preventing damage to the skin's structural proteins. This results in smoother, more resilient skin with reduced signs of aging [9].

## CLINICAL EVIDENCE

### Pomegranate Extract

Clinical studies have demonstrated the efficacy of pomegranate extract in improving skin health and reducing signs of aging. A study published in the *Journal of Cosmetic Dermatology* found that participants who used a topical formulation containing pomegranate extract showed significant improvements in skin elasticity, hydration, and overall appearance. The study concluded that pomegranate extract is an effective ingredient in anti-aging skincare products due to its potent antioxidant properties [10].

### Beclometasone

Clinical trials have also supported the use of beclometasone in dermatology. Research published in the *Journal of Dermatological Treatment* demonstrated that beclometasone effectively reduces inflammation and improves skin conditions characterized by inflammation and irritation. While its use in cosmetics is limited due to potential side effects with prolonged use, controlled amounts can provide significant benefits in reducing skin inflammation associated with aging [11].

## SAFETY AND SIDE EFFECTS

### Pomegranate Extract

Pomegranate extract is generally considered safe for topical use. However, individuals with sensitive skin or allergies to pomegranate should perform a patch test before using products containing this extract. Adverse reactions are rare but can include mild irritation or redness. It is important to use products containing

pomegranate extract as directed to avoid potential side effects [12] .

#### Beclometasone

The use of beclometasone in cosmetics is more complex due to its potential side effects with prolonged use. Overuse of corticosteroids can lead to skin thinning, increased susceptibility to infections, and other adverse effects. Therefore, it is crucial to use beclometasone in controlled amounts and under the guidance of a dermatologist. In the context of an anti-aging cream, beclometasone should be used sparingly and not as a daily treatment [13] .

#### CONCLUSION

The combination of pomegranate extract and beclometasone in an anti-aging cream offers a promising approach to combat the signs of aging. Pomegranate extract's antioxidant properties and beclometasone's anti-inflammatory effects provide a synergistic effect that enhances skin elasticity, reduces wrinkles, and promotes overall skin health. Further clinical studies are necessary to establish the efficacy and safety of this formulation fully. The potential benefits of this combination highlight the importance of exploring natural and scientifically backed ingredients in the development of effective anti-aging skincare products [14] .

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