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Bloodroot associated eschar

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**PhotoVignette**

**Bloodroot associated eschar**

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**Abstract**

We present a case of a 60-year-old woman who, after using a blemish cream purchased at a health store, presented to our clinic with a large eschar on the right neck. The active ingredient in this cream was found to be *Sanguinaria canadensis*, a known escharotic. This substance is popularly marketed as a natural remedy for a host of skin diseases such as blemishes, moles, warts, skin tags, basal cell carcinomas, squamous cell carcinomas, actinic keratoses, and even melanoma. The patient was treated with topical corticosteroids but is still left with a scar from the healed eschar. Dermatologists must be aware of the increasing popularity of “natural” medicinal skin cancer therapies, such as bloodroot-containing “cancer salves” and “herbal cures,” and emphasize to their patients that conventional excision, micrographic surgery, electrodesiccation, and/or curettage are highly successful treatments for most skin cancers with little morbidity.

**Keywords:** *Sanguinaria canadensis*, bloodroot, eschar

**Introduction**

*Sanguinaria canadensis*, commonly known as bloodroot, is a flowering plant native to the eastern North America that is known to be escharotic. The compound is marketed with claims of cure rates in excess of 90% for the purported treatment of blemishes, moles, warts, skin tags, basal cell carcinomas, squamous cell carcinomas, actinic keratoses, and even melanoma [1,2]. In spite of adherence to product application instructions, many consumers still suffer severe adverse outcomes.

## Case synopsis

A white female in her 60s presented with a 5-day history of a painful eruption on her right lateral neck (Figure. 1). She reported recent use of three localized herbal blemish treatments with the active ingredient of *Sanguinaria canadensis*. Examination of her right neck revealed an irregular yellow-green eschar with diffuse peripheral erythema.

A biopsy was not performed as the diagnosis was unequivocal. The patient was managed with oral and topical mid-potency corticosteroids. One month after initial presentation, most of the eschar had resolved, leaving a large, irregular, depressed scar.



**Figure 1.** Large eschar on the right neck with surrounding erythema

## Discussion

*Sanguinaria canadensis* is a benzophenanthridine alkaloid derived from a blood-red liquid found within the roots of a perennial flowering plant of eastern North America and belonging to the Papaveraceae or poppy family. This compound has been used historically as a thick paste for topical destruction of skin lesions [1]. Dr. Moh of the so-named micrographic surgery used bloodroot and zinc chloride in his escharotic paste to fix tissue *in situ* prior to excision, although fresh frozen tissue sampling has largely replaced this process [1]. Modern products such as black salve, Cansema, or most recently DermaTrend, contain corrosives like bloodroot or zinc chloride, which may or may not be listed explicitly as ingredients [2].

Sanguinarine is the biologically active component of bloodroot and possesses antimicrobial, anti-inflammatory, antioxidative, and immunomodulatory effects [3]. Some anecdotal evidence suggests positive outcomes of bloodroot treatment for certain skin and prostate cancers and cytotoxic sanguinarine has been shown to induce apoptosis *in vitro* in various human cancer cells, such as colon and prostate carcinoma [4]. However, fluorometric assays have demonstrated the compound's lack of specificity for cancer cells [5]. Sanguinarine is non-specifically corrosive to healthy and pathologically affected tissues alike [6].

The lesion may resolve clinically but patients may be left with severe hypertrophic scarring, residual tumor with metastatic potential, or later recurrence, which is often deeper than the original presentation [1]. In addition, there exists the theoretical possibility that escharotic agents actually eliminate some neoplastic cells, but select for those that are more aggressive [7]. Beyond the cosmetic consequences, such as the painful eschar and subsequent persistent scar following topical steroids in this patient's case, erosions can cause severe co-morbidities, such as enterocutaneous fistulas [5].

Perhaps most dangerously, the use of "alternative" anti-cancer treatments can lead to significant delays in diagnosis, biopsy, and curative treatment of aggressive skin cancers, and increase the potential for malignant recurrence from residual neoplastic cells or micrometastases [6]. Patients are then faced with the necessity for more invasive treatment with an increased likelihood of morbidity [7]. Dermatologists must be aware of the increasing popularity of "natural" medicinal therapies such as bloodroot-containing "cancer salves" and "herbal cures," and emphasize to their patients that conventional excision, micrographic surgery, electrodesiccation, and/or curettage are highly successful treatments for most skin cancers with little morbidity.

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