

Rare but Relevant: Non-HIV Related Kaposi Sarcoma Treated with Cryotherapy

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INTRODUCTION

Kaposi sarcoma (KS) is a malignant vascular tumor closely associated with human herpesvirus-8 (HHV-8) infection. It manifests as violaceous, reddish-blue, or brownish macules, plaques, or nodules on the skin or mucosal surfaces, sometimes accompanied by pain [1-2]. KS lesions progress through patch, plaque, and nodular stages, potentially ulcerating or invading nearby tissues [1]. While primarily affecting mucocutaneous sites, KS can also involve lymph nodes, the gastrointestinal tract, and internal organs, indicating its potential for widespread systemic involvement [1]. The four clinical subtypes of KS include the classic or sporadic subtype, endemic subtype observed in sub-Saharan Africans, epidemic subtype associated with HIV infection, and iatrogenic subtype, which occurs in patients undergoing immunosuppressive therapy [1]. Given the high prevalence of HIV-related KS, the identification of KS lesions should prompt physicians to screen for HIV and other underlying malignancies to allow for accurate diagnosis of underlying causes and appropriate treatment [3-4].

KS is characterized by spindle cell vascular proliferation in the dermis, and immunohistochemistry can aid definitive diagnosis. LANA1 can be used as a surrogate marker for HHV-8. Lesions may express CD34, factor VIII, PECAM-1, D2-40, VEGFR-3, and BCL-2 [1]. Treatment options vary depending on the extent of the disease. Localized skin lesions can be managed with various modalities, such as excision, cryotherapy, or vincristine injection, while systemic disease typically requires chemotherapy and immunotherapy [5-6]. This case report presents an unusual instance of non-HIV-related KS lesions successfully treated with cryotherapy. This outcome highlights cryotherapy's potential as an effective, less invasive treatment option with fewer side effects compared to systemic therapies, particularly for localized lesions.

CASE REPORT

A 79-year-old woman, of Ashkenazi Jewish descent, with no significant past medical history presented for evaluation of recently developed asymptomatic lesions on her left antitragus and left lateral nose. Physical examination revealed an erythematous-violaceous papule on the left antitragus and two erythematous macules on the left lateral nose. The antitragus lesion was treated with two cycles of liquid nitrogen cryotherapy, while the nasal lesions were initially left untreated. The patient declined treatment to the nose at that visit but agreed to cryotherapy treatment of the lesion located on the left antitragus for a total of four freeze-thaw cycles. One month later, at follow-up, the antitragus lesion had resolved. However, the untreated lesions on the left lateral nose persisted, and three new erythematous papules had appeared on the nasal bridge. Treatment was initiated with timolol 0.5% drops twice daily for the left lateral nose lesions and imiquimod 5% cream once daily for the nasal bridge lesions.

At the subsequent monthly follow-up, all nasal lesions remained despite ongoing treatment. Biopsies of the nasal bridge and left lateral nose lesions were performed, revealing Kaposi sarcoma with histological findings positive for HHV-8, CD34, and CD31. Notably, the patient had a recent history of a negative HIV test that was tested one month after the initial presentation of the lesions. Given the previous success with cryotherapy on the similarly appearing lesion on the antitragus, all six remaining lesions on the left lateral nose and nasal bridge (pictured in Figure 1) were treated with cryotherapy. At the following month's appointment, the patient presented with complete resolution of all lesions, as seen in Figure 2. The patient remained lesion-free at the three-month follow-up seen in Figure 3.

DISCUSSION

Kaposi sarcoma exhibits a variety of clinical manifestations and therapeutic approaches. Liquid nitrogen cryotherapy offers a promising approach for clearing cutaneous Kaposi sarcoma lesions, being less invasive than excision and associated with fewer side effects compared to immunotherapy and chemotherapy. This case report highlights a rare instance of non-HIV-related KS localized to the antitragus, nasal bridge, and nasal ala, effectively managed with cryotherapy. This patient's presentation underscores several critical aspects of KS presentation and treatment.

In the HIV-related form of KS, head and neck involvement is common, with the oral cavity being the most frequently affected mucosal site [7-9]. Primary involvement of the nasal cavity, particularly the nasopharynx, is significantly rarer, with only a few documented cases in the literature [10]. Notably, less than a dozen patients with primary KS of the nasal cavity have been reported without concurrent HIV infection, highlighting a distinct subset of KS presentations [10]. This case provides a distinctive example of non-HIV-related nasal KS, which, to our knowledge, represents one of the few instances successfully managed with cryotherapy—a less invasive treatment with minimal systemic side effects. One prior study noted continued clearance of KS lesions in 19/30 HIV-negative patients treated with liquid nitrogen cryotherapy [6]. Additionally, this case report is unique in that the patient did not respond to topical treatments with timolol 0.05% drops and imiquimod 5% cream but achieved lesion clearance with cryotherapy. The successful resolution of the lesions with cryotherapy in this patient underscores its potential as an effective treatment for localized KS lesions, offering an alternative to more conventional therapies that may be less effective or feasible in patients with severely compromised immune systems [7]. The resolution of lesions with cryotherapy, coupled with the persistence of clear outcomes over several months, suggests that this method can be particularly beneficial for localized lesions in immunocompetent or less severely immunocompromised patients.

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Figure 1: Photograph from April 2024 office visit showing initiation of liquid nitrogen cryotherapy to four lesions, treated with two freeze cycles.



Figure 2: Photograph from May 2024 office visit demonstrating continued clearance of lesions following liquid nitrogen cryotherapy on April 2024.



Figure 3: Photograph from July 2024 office visit showing continued clearance of lesions following initial liquid nitrogen cryotherapy in April 2024.