Case Report

**Exuberant Reaction of Facial Keloid in Response to Imiquimod 5% Cream**

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**Case Report**

A 62-year-old male with a keloid presented to our clinic with extensive overlay of a minimally tender yellow thick adherent crusted plaque on his right cheek (Figures 1a and 1b). The patient stated he was prescribed imiquimod 5% cream and had been applying this to his keloid three days per week for the past 18 weeks. The patient stated he noticed the crusting within eight weeks after he started using the imiquimod 5% cream but continued application as instructed. The patient stated he did not use any other topical treatments for his keloid scar or subsequent crusting once it presented. The patient described mild pain but no systemic symptoms. In our clinic, the patient was laid in the supine position and 4x4 gauze was soaked in 5% hydrogen peroxide and placed on the crusted area on the right cheek for 20 minutes. After elapsed time, light debridement of the crusted area was performed with administration of additional hydrogen peroxide. The foul-smelling debris was successfully removed (Figure 1c) and the patient was encouraged to stop imiquimod cream applications and given topical mupirocin ointment. The patient returned to clinic 4 weeks later for a follow-up visit with total resolution of the inflammation and superficial ulceration (Figure 1d). Of importance, the approximately 3 cm x 2 cm keloid was unchanged from pre-treatment dimensions.

**Keywords:** 5% imiquimod; facial keloid; scarring
Figure 1. Clinical pictures of subject with exuberant reaction from topical imiquimod. (a, b). Pictures at presentation. (c). Immediately following superficial debridement with hydrogen peroxide. (d). Four weeks later demonstrating original keloid (arrow).

Discussion

Keloid scarring is a result of abnormal scar formation in response to cutaneous injury. It is characterized as a benign growth of fibrous tissue beyond the borders of original inflammation or wound [1]. While the exact underlying mechanisms of scar formation are unknown, it is believed to be the result of an abnormal balance of collagen-forming fibroblast proliferation and apoptosis [1]. Keloid scar formation can be distributed widely on a susceptible person but the mandibular region, shoulder, anterior chest, neck, and earlobes are of higher incidence [1,2]. Effective treatments for keloid scarring remain challenging and elusive. Invasive techniques such as excision or radiation have been used, along with topical agents that work to prevent further scar formation beyond original boundaries [3]. Imiquimod incites an immunological response in the areas in which it is applied via activating Toll-like receptor 7 [4]. It is commonly used in the treatment of verrucae vulgaris (warts) caused by the Human Papilloma Virus (HPV) [4]. Studies have shown that imiquimod can be an effective treatment in some cases for prevention of keloid scar formation post-surgical excision [5,6]. The present case describes an attempt to treat an established keloid with topical imiquimod cream, which resulted in considerable inflammation and no discernible improvement in the keloid.

While imiquimod 5% cream is widely used for wart treatment, this case presents an interesting approach in its use for keloid scars. Clinical studies have evaluated its use in preventing recurrence of keloid scar formation for surgical excision [5,6]. This case is unique in its application for topical use without preceding surgical excision. Of importance, this treatment did not result in significant improvement of the underlying facial keloid. We report this case to increase awareness of potential adverse reactions of using imiquimod 5% cream in the treatment of keloid scars. While treatment for keloid scars continues to provide challenges to clinicians, this report illustrates that topical imiquimod treatment is both not effective, as well as can be associated with an exuberant tissue reaction.

References