

Pyogenic granuloma-like lesions during isotretinoin therapy treated by electrocauterization surgery in Republic of Korea: a case report

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Isotretinoin is highly effective in the treatment of severe cystic and conglobate acne. On the other hand, its use has been associated with various side effects, including cheilitis, conjunctivitis, xerosis, epistaxis, and pruritus. The development of pyogenic granuloma-like lesions has been reported as a rare adverse effect of oral isotretinoin therapy. This paper reports a case of isotretinoin-induced pyogenic granuloma-like lesions treated successfully with electrocauterization surgery. This case illustrates the appearance of typical lesions and the clinical course of isotretinoin-induced pyogenic granuloma-like lesions and highlights the need for dermatologists to be aware of the adverse events that may occur during treatment with isotretinoin and that electrocauterization surgery may be a useful treatment option.

Key words: Acne; Electrocautery; Isotretinoin; Pyogenic granuloma

INTRODUCTION

Isotretinoin has been shown to be highly effective in the treatment of severe cystic and conglobate acne. However, its use has been associated with various side effects, including cheilitis, conjunctivitis, xerosis, epistaxis, and pruritus [1]. Development of pyogenic granuloma-like lesions has been reported as a rare adverse effect of oral isotretinoin therapy. The first case was reported by Exner et al. [1] and Valentic et al. [2] in 1983. Until now, there are around 20 cases reported in the literature [3].

A written informed consent was obtained from the patient for the publication of this case report.

CASE REPORT

A 21-year old male presented with numerous non-healing ulcers with crusting on his chin and neck. Three months ago, he had developed severe cystic acne involving his face, for which he was prescribed 30 mg of isotretinoin per day (0.5 mg/kg/day) at a local clinic. During this treatment, the acne seemed to improve, but several cystic acne gradually evolved into painful, bleeding ulcers with discharge. Dermatological examination revealed numerous soft, friable, pyogenic granuloma-like lesions covered with thick purulent discharge and hemorrhagic crusts over his chin and neck (Fig. 1). A skin biopsy from the lesions revealed findings compatible with granulation tissue.

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Fig. 1. Isotretinoin-induced pyogenic granuloma-like lesions: (A) before and (B) after treatment.

A diagnosis of isotretinoin-induced pyogenic granuloma-like lesions was made based on the clinical and histopathological features. Oral isotretinoin was discontinued and large lesions were removed by cauterization using a 3.8-MHz radiofrequency device (Surgitron; Ellman International, Inc.) at a power of 1 to 2 in electrocoagulation mode. After three weeks of treatment, the lesions improved significantly (Fig. 1).

DISCUSSION

Clinically, isotretinoin-induced pyogenic granuloma-like lesions are characterized by ulceration, hemorrhagic crusting, and granulation tissue formation. It occurs between the 3rd and 12th week of therapy and most commonly affects the chest, neck, and back [4].

While the exact mechanism of this reaction is unknown, some theories have been suggested, including augmented skin fragility associated with the loss of desmosomes and desmosomal attachments and isotretinoin-induced vascular proliferation facilitating the formation of granulation tissue [5]. Some also argue that genetic or hormonal components form part of the pathophysiology, since all cases of pyogenic granuloma-like lesions have been reported only in male patients [6].

As there are no standardized guidelines for treatment, the management depends on the severity of the reaction. In severe cases, discontinuation of or a reduction in the dose of oral isotretinoin and commencement of oral steroids is needed [4]. Cautery and curettage, incision, potent topical steroids, or pulsed dye lasers have been successfully used in treating single lesions [4].

Since isotretinoin is widely used to treat acne, clinicians must be aware of the rare but serious adverse effects, including development of pyogenic granuloma-like lesions. This case demonstrates the appearance of typical lesions and the clinical course of isotretinoin-induced pyogenic granuloma-like lesions and highlights the need for dermatologists to be aware of the adverse events that

may occur during treatment with isotretinoin.

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AUTHOR CONTRIBUTIONS

Conceptualization: HSH, SYC. Data curation: HSH, YGK. Formal analysis: HSH, YGK. Visualization: HSH, SYC. Writing—original draft: HSH, KL. Writing—review & editing: all authors.

CONFLICT OF INTEREST

Hye Sung Han is an editorial board member of the journal, but was not involved in the review process of this manuscript. Otherwise, there is no conflict of interest to declare.

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DATA AVAILABILITY

None.

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SUPPLEMENTARY MATERIALS

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