

Acneiform Eruption Caused By Varenicline Tartrate: A Case Report

Hatice Gamze Demirdağ,^{1*} MD, Gülbahar Saraç,¹ MD, Yelda Kapıcıoğlu,² MD

Address: ¹Malatya State Hospital, Dermatology Clinic, ²Inönü University Faculty of Medicine, Dermatology Clinic, Malatya, Turkey

E-mail: hemoglobin82@hotmail.com

* Corresponding Author: Dr. Hatice Gamze Demirdağ, Malatya State Hospital, Dermatology Clinic, Malatya, Turkey

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Abstract

Observation: Drug-induced acneiform cutaneous eruptions are chronic rare reactions, have seen within the weeks or months after taking drug. Although many drugs may cause this reaction, corticosteroids are the most frequent. Varenicline tartrate has taken place in clinical practice as a helper drug for smoking cessation. Acneiform rash is a rare side effect of varenicline. Here, we present 32-year-old woman with erythematous papules and papulopustules on her proximal trunks who has taken the varenicline tartrate since 2 months.

Introduction

Cutaneous adverse drug reactions are the most common form of adverse reactions to drugs and constitutes approximately 30% of all reported cases. Drug-induced acneiform eruption represents a small percentage of drug-induced skin eruptions [1].

Varenicline tartrate is used for smoking cessation recently. It is a partial agonist at the $\alpha 4$ - $\beta 2$ nicotinic acetylcholine receptors with higher affinity and lesser functional effect than nicotine. In this way, varenicline may decrease smoking desire and withdrawal during smoking cessation. It reduce the reinforcing effects of smoking [2].

Most frequent adverse events of varenicline are neurologic (insomnia, headache, abnormal dreams) and gastrointestinal (dyspepsia, constipation and/or flatulence) [2]. Nausea is the most common side effect of drug which is prone to be mild and self-limiting [3]. Serious

adverse event of varenicline is reported on cardiovascular events. Ischemia, arrhythmia, congestive heart failure, sudden death or cardiovascular related death are serious adverse events associated with varenicline [4]. There is also an increased risk of serious neuropsychiatric symptoms including depressed mood, agitation, suicidal behavior, and suicidal ideation [3]. The frequent cutaneous adverse effect of drug is hyperhidrosis. While acne, dry skin, eczema, erythema, psoriasis, urticaria is infrequent, photosensitivity reaction is rare side effect [5].

We report the development of acneiform rash in a patient who was treated with varenicline tartrate.

Case Report

A 32-year-old woman presented with a 15 day history of pruritic acne on her proximal trunks.



Figure 1 . Papulopustular eruption located to upper trunk



Figure 2 . Close-up view

Physical examination revealed scattered erythematous papules and papulopustules with 2-4 mm diameter which was more common above sternum, upper trunk and also seen upper surface of her back (**Figures 1 and 2**). She started to varenicline tartarate 2 months before for the purpose of smoking cessation. Skin flora were found on culture of pustular lesions. Histopathological examination of a pustular lesion revealed mild spongiosis, exocytosis in the epidermis and parakeratotic debris, inflammatory infiltrate of neutrophils and lymphocytes in the dermis and within the follicle. Based on the clinical and histological appearance, the diagnosis of acneiform drug eruption was made, related to varenicline. The patient discontinued varenicline and acneiform eruptions were resolved after treatment with topical benzoil peroxide and oral antihistaminic therapy.

Discussion

Cutaneous adverse drug reactions can be distinguished two general patterns, depending on the type of onset of these reactions: acute or chronic. Acneiform eruption is one of the chronic onset drug-induced disorders [6].

In drug-induced acne, papulo-pustular inflammatory eruption appears on the face and upper trunk resembling acne vulgaris [1]. Monomorphic lesions, widespread extension, unusual age for acne and unusual localizations are characteristics of drug-induced acne [7]. Comedones are not usually appeared conversely acne vulgaris [1, 7, 8]. Pustules are especially sterile for bacteria, fungi, yeasts or Demodex mites. Sometimes signs of systemic drug toxicity such as fever and malaise are present [7]. Pruritus is common, similarly in acneiform skin eruption induced by epidermal growth factor receptor inhibitors [9].

These are important for differential diagnosis with acne vulgaris. In our case, the eruption was localized on sternum and upper part of the back. Pruritus was prominent complaint and comedones was not occurred.

In drug-induced acneiform eruptions, the earliest histologic observation is spongiosis, followed by lymphocytic and neutrophilic infiltrate, like our patient's histologic findings [10].

Acneiform drug eruption may be developed by using corticosteroids, anabolic steroids (danazole, testosterone), tetracycline, vitamin B1, B6, B12, isoniazid, lithium carbonate, cyclosporin A, haloperidol, penicillamine, iodides, bromides, anticonvulsants and epidermal growth factor receptor inhibitors [7, 8, 9, 10].

Cutaneous drug reactions may be caused by several different mechanisms, but in many cases the precise mechanism is unknown. Many drug eruptions are the result of a hypersensitivity reaction with an underlying immune mechanism. The clinical manifestations of drug hypersensitivity depend on various factors, including the chemical or structural features of a drug, the genetic background of the affected individual and the specificity and function of the drug-induced immune response [8].

The patient's history, the clinical findings, the exposure to drug and the disappearance of lesions after discontinuation of the suspicious medication should lead to the diagnosis [7].

Varenicline is one of the first-line pharmacotherapies, reported to be a superior smoking cessation aid with direct and indirect compa-

rison with bupropion, nicotine replacement therapy products and cytisine [3]. Post-marketing reports of varenicline contain hypersensitivity reactions including angioedema and severe skin reactions including eritema multiforme and Stevens-Johnsons Syndrome [3, 5]. There have also been reports of serious cutaneous reactions, including diffuse exanthema [11], acute generalized exanthematous pustulosis [12, 13] in the literature. Generalized severe rash and fever started 5-7 days after taking varenicline, was seen in these cases. The eruption resulting palmar/plantar hyperhidrosis and dysesthesia is also reported [14]. Our patient did not revealed systemic symptoms and acneiform eruption was occurred on the upper part of the body. The eruption began 1,5 months after started varenicline. Symptoms regressed with discontinuation of drug and favorable therapy.

In summary, varenicline may help smokers quit smoking and acneiform eruption should be considered as a cutaneous side effect of varenicline tartrate. We decided to present this case to attract attention of this side effect.

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