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Labial comedones induced by petroleum jelly: a florid example

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To the Editor:

Acne is a common, inflammatory skin disease of the pilosebaceous units (hair follicles and their accompanying sebaceous glands), affecting 85% of adolescents and young adults [1]. Moderate and severe forms of acne account for only 15–20% of cases [2]. It ranks second among the most common dermatological conditions and involves sebaceous follicles of the face and upper trunk region, explaining the predilection sites of acne in these regions. Four factors are found to contribute to acne formation: excess oil (sebum) hypersecretion, abnormal proliferation, and differentiation of keratinocytes in the hair follicle, colonization of bacteria, and host inflammatory response [3,4]. Of these, the bacterium *Cutibacterium acnes* is believed to trigger an inflammatory response and lead to subclinical and inflammatory acne lesions [5]. We report patient with striking comedo formation on the upper lip, that developed after the use of a petroleum-based product.

A 17-year-old healthy girl with severe acne was started on isotretinoin at 20mg daily. Two months later, the dose was increased to 40mg daily. Despite improvement, she presented with open comedones over the upper lip three months after dose escalation, shown in **Figure 1**. The patient often used petroleum jelly (Vaseline) over both lips to minimize dryness from isotretinoin and denied use of other products in this area. Thus, a clinical diagnosis was made as petroleum-induced comedones. Comedo

extraction under local anesthesia and termination of petroleum jelly application and continuation of the isotretinoin produced resolution. After six months, there was complete clearance without recurrence, seen in (**Figure 2**).

Isotretinoin is a vitamin A derivative systemic retinoid. It is the first line treatment for severe acne or resistant acne. It is the only drug available acting effectively on all acne pathogenic factors and has the potential for long term suppression. It causes inhibition of the sebaceous gland secretion, reducing *Cutibacterium acnes*, colonization of follicles and inducing shedding of the keratinocytes [6].



Figure 1. Comedones over the upper lip.



Figure 2. Six months after comedo extraction and termination of petroleum jelly.

Some skincare products such as cocoa butter and esters like isopropyl myristate [7] as well as certain topical drugs such as corticosteroids and oral anabolic steroids have a comedogenic effect, which may lead to comedo formation [8]. Although petrolatum did not show significant comedogenicity in rabbit ear studies, it was linked to their formation in human skin [7]. In the literature, there are few reports describing such findings. Facial comedo formation induced by petroleum jelly use was first reported in 1984 [9]. In 1986, Shelley et al. described two patients with an unusual, limited form of acne on the entire cutaneous margin of the upper lip. It appeared after repetitive application of lip balm in one patient and petroleum jelly in the other. Their

elimination, microincision and expression of the comedones, treated it successfully [10]. Since then, to the best of our knowledge, no other articles have been published on it.

We have described a florid eruption of comedones on the lips induced by petroleum jelly application. Such a form of comedones can be considered as an unusual form of acne. Elimination of the causative agent, along with comedonal extraction, has been a useful treatment.

Potential conflicts of interest

The authors declare no conflicts of interest.

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