

Case Report

# Linear Sebaceous Gland Hyperplasia behind the Right Ear Clinically Simulating Verrucous Nevus

Zhou Xiaofang; Deng Xiangfen; Wang Huifen; Huang Hui\*; Zhai Zhifang\*

Department of Dermatology, Southwest Hospital, Army Military Medical University, Chongqing, China.

\*Corresponding Author: **Huang Hui & Zhifang Zhai**

Department of Dermatology, Southwest Hospital, Army Military Medical University, Chongqing, China.

Email: huanghuipfk@aliyun.com; zhaizf1004@163.com

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## Abstract

Sebaceous Gland Hyperplasia (SGH) is a common benign proliferative skin disorder, which most commonly involves the faces and usually appears as yellow, soft, umbilicated papules. But the clinical manifestations of SGH vary greatly. We presented a 40-year-old man with the flesh-colored to light brown linear plaque behind the right ear mimicking verrucous nevus clinically. Dermoscopy and Reflective Confocal Microscopy (RCM) prompted SGH and the histopathological examination verified it. We reviewed the related literatures and share the special manifestations of SGH. Dermoscopy and RCM as noninvasive tools may be helpful to make clinical diagnosis and differential diagnosis.

**Keywords:** Sebaceous gland hyperplasia; Verrucous nevus; Dermoscopy; Reflective confocal microscopy.

## Introduction

Sebaceous Gland Hyperplasia (SGH) is a common benign proliferative disease, with the incidence of about 1% [1]. The pathogenesis of SGH is not fully understood. Old age, male, immunosuppression, as well as exposure to UV radiation may be risk factors for the SGH. SGH typically appears as isolated or multiple, yellow, soft, umbilicated papules. Rare variants of SGH include cases in linear, zosteriform, diffuse, giant and nevoid form, even with familial history, and so on which manifestations are often lead to misdiagnosis clinically. In this case, we present a special linear sebaceous gland hyperplasia behind the right ear clinically simulating verrucous nevus. Dermoscopy and RCM played an important role in the diagnosis of SGH.

## Case report

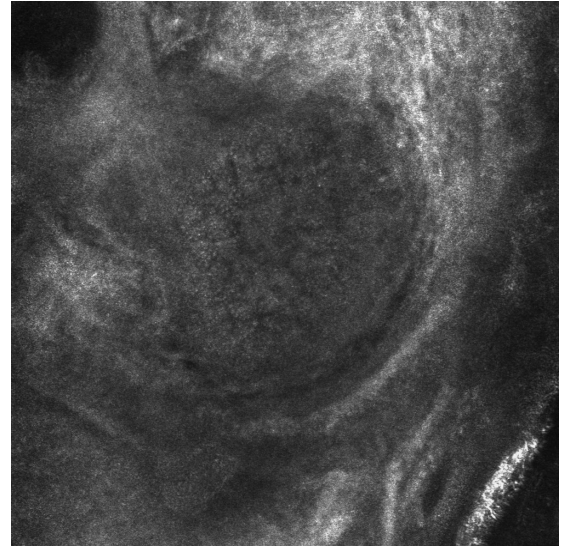
A 40-year-old man suffered from some asymptomatic flesh-colored papules arranged in line behind the right ear for more than 5 years. The lesions gradually increased and enlarged, with

rough and uneven surface. History of prior local trauma or systemic medication was absent. The family history was also destitute. On examination, the flesh-colored to light brown papules and nodules with a few scales on the surface, localized behind the right ear involved the auricle in roughly linear distribution, about 2.5 cm × 8 cm in size (Figure 1A). The primary clinical diagnosis was verrucous nevus. Dermoscopy showed a yellowish lobulated structure surrounded by crown-shaped vessels (Figure 1B). RCM revealed morula-shaped sebaceous gland structures are seen in the dermis (Figure 1C). Further the biopsy was taken from the lesions and the histopathology showed that a large number of mature sebaceous lobules distributed in clusters, with partial catheter malformation but well-differentiated cells in the dermis, and lymphocytes and histiocytes in small pieces infiltrated around the capillaries in the superficial dermis (Figure 1D). The diagnose of line sebaceous gland hyperplasia was made. The patient refused to treat by surgical or laser excision. After 6 months of follow-up, there was no progress in skin lesions.

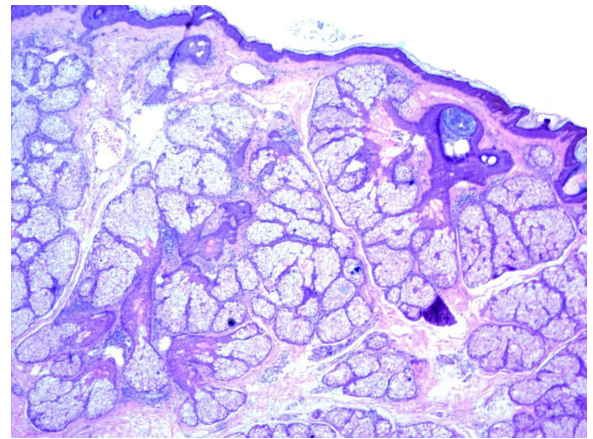
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**Figure 1a:** Skin colored to light brown papules and nodules can be seen behind the right ear involved the auricle in roughly linear distribution. The skin lesions are hemispherical, warty and lobulated with a few scales.



**Figure 1C:** Reflection confocal microscopy presented morula-shaped sebaceous gland structures in the dermis.



**Figure 1D:** Histopathological examination showed multiple hyperplastic sebaceous glands with mature sebaceous cells (Hematoxylineeosin stain,  $\times 100$ ).

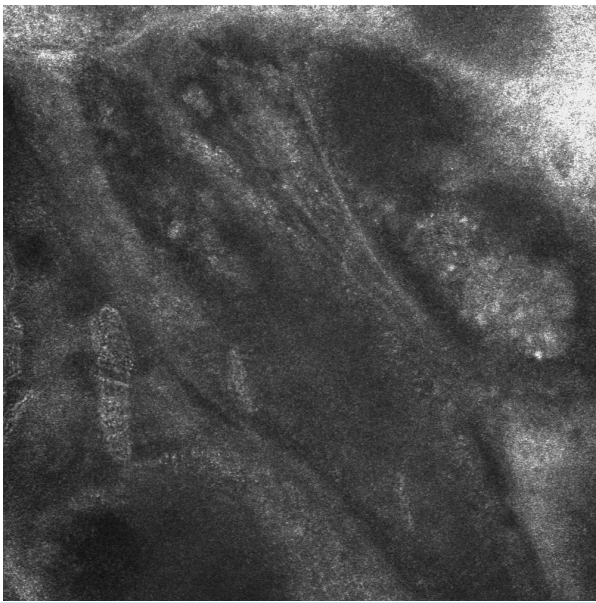


**Figure 1b:** Dermoscopy showed a yellowish lobulated structure surrounded by crown-shaped vessels ( $\times 50$ ).

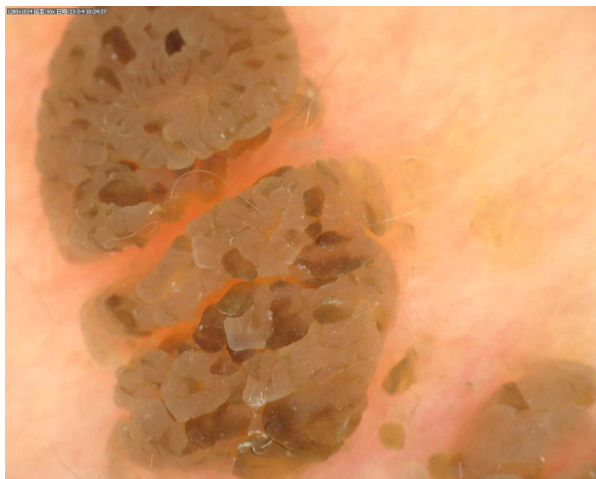


**Figure 2a:** Dermoscopy showed yellow round and oval structures of different sizes ( $\times 50$ ).

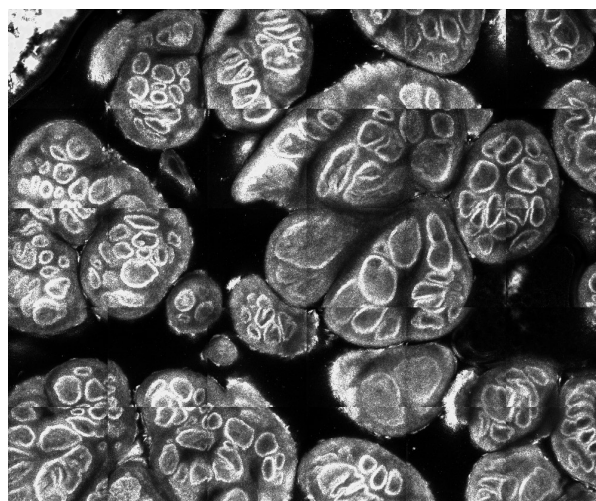




**Figure 2b:** Reflection confocal microscopy presented morula-shaped sebaceous gland structures in the dermis.



**Figure 3a:** Dermoscopy showed brownish yellow or brownish black cerebellar gyri (x50).



**Figure 3b:** Reflection confocal microscopy presented the epidermal protrusions extended irregularly, papillomatous hyperplasia, and increased pigment in the basal layer.

## Discussion

SGH is a common benign proliferative skin disorder, mainly affected adults of middle age. It is caused by the enlargement of the normal sebaceous glands, but its pathogenesis is unclear. Usually it presents as multiple, soft, small, yellowish papules with central umbication, which easily affects forehead, nose and cheeks [2]. Rare variants of SGH include a linear form, zosteriform arrangement, a diffuse form, a giant form, a nevroid form, and a familial form. Linear form cases reported in the past presented as small in size, exhibited a linear arrangement on the supra- or subclavicular areas [3]. Sato et al [4] reported two cases with linear SGH on the chest displayed as sporadic papules but distributed along the Blaschko line. Another case with a linear hyperkeratosis plaque mimicking a wart over the right ear was reported [5]. Our case characted by rough warty plaque behind the right ear mimicking verrucous nevus clinically, which is a special clinical manifestation. Diagnosis of SGH depends on histopathological examination, which characterized by enlarged sebaceous glands with lobules containing mature sebaceous cells opening into widened ducts. Dermoscopy and RCM are non-invasive techniques developed in recent years to observe the microscopic morphological characteristics of epidermis and superficial dermis. The typical dermoscopy character of SGH is well-demarcated yellow-white lobular structure surrounded by crown-shaped vessels, which is a characteristic feature to make a diagnose of SGH. RCM shows a lobulated proliferation composed of round cells with bright speckled cytoplasm and a centrally located nucleus as “morula-shaped”, and a dilated central follicular infundibulum at the level of papillary dermis<sup>[6]</sup>. Dermoscopy and RCM are helpful for us to make a diagnosis of SGH.

Typical sebaceous hyperplasia is easy to be diagnosed, while SGH with special manifestations should be distinguished from sebaceous nevus [7], linear epidermal nevus [8] and colloid milium. Under dermoscopy, the sebaceous nevus present with yellow round and oval structures of different sizes, which are unrelated to hair follicles, and accompanied by telangiectasia (Figure 2A). With RCM, the superficial dermis showed grape cluster sebaceous structures, with tubular or stipe structures in the center, and sebaceous lobules with frog egg hyperplasia clustered in the periphery. The upper epidermis often presented papillomatous hyperplasia (Figure 2B). The linear epidermal nevus under dermoscopy showed skin color, brown-yellow, brown-brown or brown-black cerebellar gyrus structure and corn keratoid structure (Figure 3A). RCM showed excessive epidermal keratosis, irregular extension of epidermal processes, papillomatoid hyperplasia, and increased pigment in the basal layer (Figure 3B). Under the dermoscopy colloid milium show brown-yellow unstructured masses were separated by white stripes and presented cross-sectional changes of orange petals. There are branched vessels in and around the septa of the mass [9].

SGH mainly affects the appearance and has a low rate of cachexia. Therefore, the choice of treatment methods should take into consideration the patient's wishes and side effects. Treatments about SGH include topical chemical treatments, cryotherapy, photodynamic therapy, electrotomy, laser therapy, oral isotretinoin and surgery [10]. Pigmentation, scarring and relapse are common adverse reactions.

## Funding sources

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