

# Vestibulophyma and Giant Rhinophyma Associated With Variant Rosacea

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## Abstract

In July 2013, a 44-year-old Taiwanese man was admitted to Kaohsiung Chung-Ho Memorial Hospital, presenting with a 3-year history of progressively growing nasal mass with pustules and foul smelling discharge. He is a victim of cerebrovascular accident 4 years ago, hypertension for 12 years, and left hemiplegia. He has no personal history of smoking or alcoholism. Facial disfigurement led to psychological distress, and he sought out residence at a nursing home as a social recluse. Examination revealed a giant pedunculated bulbar mass measuring 23 × 13 × 8 cm and extending from the forehead to over the tip of the nose, with complete obliteration of the normal nasal contour. MRI scan revealed extensive nasal cutaneous lobulated tumors with complete obstruction of his left nostril due to vestibular phymatous lesions. Following biopsy results, we diagnosed the patient with “vestibulophyma”, giant rhinophyma with extensive external phymatous lesions, and concomitant presentation of all four rosacea subtypes. After undergoing application of topical metranidazole jelly and low oral dose of doxycycline (40 mg/day) for 2 weeks, we proceeded with surgical intervention of giant rhinophyma de-bulking, vestibulophyma resection, inferior turbinectomy, and middle turbinectomy with microdebrider. Full thickness skin graft played an important role as an ideal and effective biological dressing during the healing process. The patient is currently well and satisfied with the results.

**Keywords:** Vestibulophyma; Rhinophyma; Turbinectomy; Rosacea

## Introduction

Rosacea, sometimes known as adult acne, is a common chronic condition associated with facial erythema, and in advanced

cases, the bulbous enlarged red nose phenomenon known as rhinophyma. Rosacea occurs more commonly in women, but rhinophyma has a higher prevalence in men, with age of onset typically between 40 and 60 years of age. The racial incidence of rosacea shows that it is common among Caucasians and American Negroes while uncommon in Orientals [1]. In the event of advanced phymatous rosacea presentation, rhinophyma may develop, characterized by hyperplasia and hypertrophy of sebaceous glands, connective tissue, and blood vessels [2, 3]. Clinically, there are four subtypes, classified as erythematotelangiectatic (type I) for burning or stinging sensation with flushing, papulopustular (type II) for a red central zone with papules and pustules, phymatous (type III) for skin thickening and irregular nodularities, and ocular (type IV) for inflammation of the ocular area. We report the case of our patient, a Taiwanese man with unique presentation of concomitant presentation of all four rosacea subtypes, extensive phymatous rosacea, and giant rhinophyma.

## Case Report

In July 2013, a 44-year-old man was admitted to Kaohsiung Chung-Ho Memorial Hospital, presenting with a 3-year history of progressively growing nasal mass with pustules and foul smelling discharge. The giant tumor compressed his nose and mouth, resulting in breathing and eating difficulties. He is a victim of cerebrovascular accident 4 years ago, hypertension for 12 years, and left hemiplegia. He has no personal history of smoking or alcoholism. Although rosacea was previously diagnosed and proven by biopsy, no aggressive treatment commenced. Facial disfigurement led to psychological distress, and he sought out residence at a nursing home as a social recluse. Examination revealed a giant pedunculated bulbar mass measuring 23 × 13 × 8 cm and extending from the forehead to over the tip of the nose, with complete obliteration of the normal nasal contour (Fig. 1). Biopsy revealed perifollicular inflammatory infiltration of lymphocytes, plasmacytes, and epithelioid cells within the fibrotic and telangiectatic stroma. Dermal vascular and lymphatic dilation, along with sebaceous gland hyperplasia, were prominent (Fig. 2). The phymatous rosacea not only presented in the nose (rhinophyma), but also involved the forehead (metophyma), glabella, eyelids (blepharophyma), left nasal vestibule, zygoma (zygophyma), and earlobes (oto-

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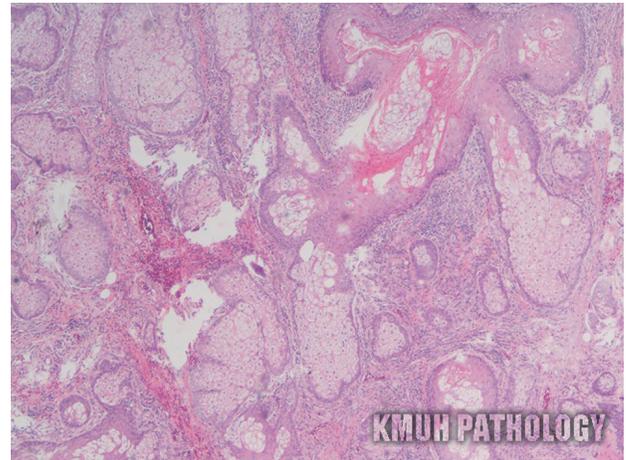
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**Figure 1.** Giant rhinophyma with complete obliteration of the normal nasal contour resulted in difficult eating and breathing. Four rosacea subtypes were also present.

phyma). All four subtypes of rosacea consisting of erythema-totelangiectatic (type I), papulopustular (type II), phymatous (type III), and ocular (type IV) were concomitantly presented. MRI scan revealed extensive nasal cutaneous lobulated tumors with complete obstruction of his left nostril due to vestibular phymatous lesions. We coined the term “vestibulophyma” to describe such a phenomenon (Fig. 3).

Following the consensus for treatment methods of rosacea, we proceeded with antibiotic application of topical metranidazole jelly and low oral dose of doxycycline (40 mg/day) for 2 weeks before surgical intervention for rhinophyma excision. We managed hypertension with diuretics and angiotensin-1 receptor blocker. Giant rhinophyma de-bulking consisted of slow and controlled electrosurgery, followed by full thickness skin graft harvested from the left inguinal area. Epinephrine soaked gauze was applied for hemostasis. The patient also accepted vestibulophyma resection, inferior turbinectomy, and middle turbinectomy with microdebrider to alleviate severe nasal obstruction. Although the grafted skin initially showed complete “take”, it was progressively uplifted and replaced as a result of re-epithelialization from remnant sebaceous glands. The skin graft played an important role as an ideal and effective biological dressing during the healing



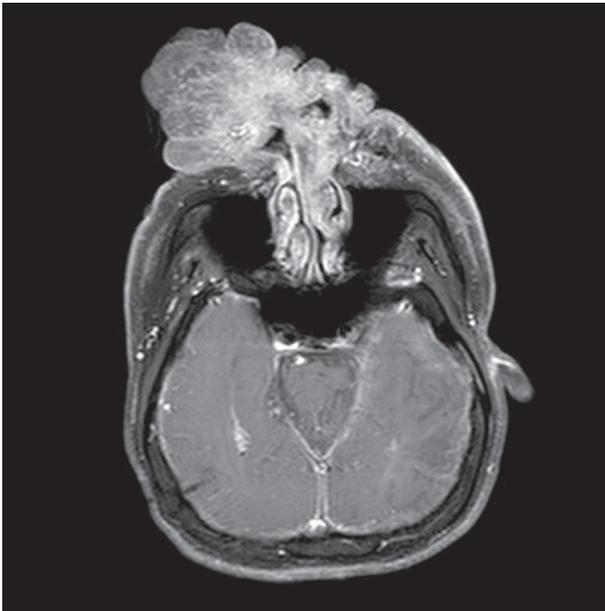
**Figure 2.** Sebaceous gland hyperplasia associated with inflammatory infiltration of lymphocytes, plasmacytes and epithelioid cells within fibrotic and telangiectatic stroma is shown.

process. The patient is currently well and satisfied with the result (Fig. 4).

## Discussion

Rosacea affects many people worldwide, but it is uncommon for rhinophyma to develop. The most commonly used and established therapeutic regimens for rosacea include topical metronidazole, topical azelaic acid, and oral doxycycline [4]. Normally associated with phymatous rosacea, rhinophyma may occur without any other symptoms. Rhinophymas should be examined carefully, as differential diagnoses may include cancers [3, 5]. The treatment method typically consists of surgical excision followed by skin graft or second intention healing after electrosurgery or laser resection [1, 2, 5, 6]. Apart from giant rhinophyma, our patient exhibited phymatous rosacea on the forehead, glabella, eyelids, left nasal vestibule, zygoma, and earlobes. Concomitant presentation of all four rosacea subtypes was also noted. It is important to consider evaluation for internal phymatous lesions, as is seen and described as “vestibulophyma”.

Given the scale of his disease, we were not able to find any precedent cases to use as references for an appropriate treatment plan. We decided to proceed using the conventional approaches of metranidazole, doxycycline, electrosurgery, and skin graft. Our standard care of nasal obstruction in rosacea patients prioritizes alleviation of difficulty in breathing, and we performed vestibulophyma resection combined with middle and inferior turbinectomy. The patient has excellent clinical results functionally and cosmetically after medical treatment, surgical resection with meticulous hemostasis, and full thickness skin graft. It is exceedingly rare to document cases involving presentation of giant rhinophyma associated with extensive external phymatous rosacea [2], nonetheless with internal nasal “vestibulophyma” and concomitant occurrence of all four rosacea subtypes. This case highlights the recognition of unique rosacea and rhinophyma presentation, as well as the



**Figure 3.** MRI scan reveals extensive cutaneous lobulated tumor with complete obstruction of the left nostril caused by vestibular phymatous lesion, which we coined “vestibulophyma”.

efficacy of conventional treatment for management of even the most complicated cases.

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### Conflict of Interest

Authors report no conflict of interest.

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**Figure 4.** This postoperative picture shows very satisfactory results 6 months after the de-bulking procedure.

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