Rhinophyma managed via partial-thickness surgical excision with a good cosmetic outcome: a case report

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Received: 15 July 2020
Accepted: 09 September 2020

Once popularly known as whiskey nose or rum blossom, rhinophyma is a permanent thickening of the nasal skin composed of confluent erythematous papules and prominent follicles. The etiology is not fully known, but many authors describe rhinophyma as the fourth stage of acne rosacea, a chronic inflammatory cutaneous disease characterized by erythema, telangiectasia, papules, pustules, and edema. It is benign yet disfiguring and can be stigmatizing. Here, we report the case of a 54-year-old man who presented with a mass on the nose that had slowly grown over the prior two years. He had a history of acne, treated with isotretinoin 10 mg daily by a dermatologist, one year before the onset of this mass. Examination from the frontal view revealed asymmetric, diffuse, multilobulated skin hypertrophy over the middle and lower nasal vault. On the basal view, there was a 10 x 7 mm epithelizing ulceration over the right alar rim. He underwent a partial-thickness resection of the hypertrophied nasal skin, and the resulting wound was left to heal via secondary intention, with a good cosmetic outcome.

Keywords: rhinophyma, rosacea, partial-thickness excision, cosmetic techniques, Kaltostat®

Iran J Dermatol 2022; 25: 82-85

DOI: 10.22034/ijd.2020.239676.1165

INTRODUCTION

Once popularly known as whiskey nose or rum blossom, rhinophyma is a permanent thickening of the nasal skin composed of confluent erythematous papules and prominent follicles. It is a benign lesion characterized by thick bulbous overgrowth of sebaceous glands and hyperplastic connective tissue [1,2]. One may present with a disfiguring nasal lesion to either a general practitioner, dermatologist, otorhinolaryngologist, or plastic and reconstructive surgeon. This paper reports a case of rhinophyma managed with a commonly used surgical technique followed by a special dressing, resulting in a good surgical outcome. We highlight the clinical characteristics, differential diagnoses, and management options of rhinophyma.

CASE PRESENTATION

A 54-year old Malay man presented to the plastic surgery clinic with a slowly enlarging mass on his nose that began growing two years earlier. He had a history of acne, treated with isotretinoin 10 mg daily by a dermatologist one year before the onset of the mass. His breathing was not obstructed, and there was no history of facial trauma. He had a 5-year history of type II diabetes mellitus, well-controlled with metformin 500 mg twice a day. He was a non-smoker, tee-total, and had no

other medical problems. The examination from the frontal view revealed asymmetric, diffuse, multilobulated skin hypertrophy over the middle and lower nasal vault. On the basal view, there was a 10 × 7 mm epithelizing ulceration over the right alar rim (Figure 1). The external nasal valves were patent.

He underwent a partial-thickness resection of the hypertrophied nasal skin using a blade (No. 10) under general anesthesia. This procedure was carried out meticulously to avoid damaging the deep dermis or destructing the nasal cartilage. Hemostasis was achieved by bipolar diathermy and direct pressure using a gauze soaked with adrenaline 10:10,000. The raw area was covered with paraffin gauze and calcium alginate (Kaltostat®) dressing. The resulting wound was left to heal via secondary intention. The Kaltostat® dressing was kept in-situ for one week, after which the dressing was changed to paraffin dressing once weekly until the wound was completely epithelialized at six weeks post-operation. Post-operatively, he was given oral amoxicillin-potassium clavulanate (Augmentin) 500 mg BID for seven days, oral paracetamol 1000 mg TID for seven days, and oral tramadol 50 mg TID for three days. At six months follow-up, the nose appeared to be more congruent with his overall facial topography, and there was no recurrence (Figure 2).

DISCUSSION

The etiology of rhinophyma is not fully known. Many authors describe rhinophyma as the fourth stage of acne rosacea, a chronic inflammatory cutaneous disease characterized by erythema, telangiectasia, papules, pustules, and edema [1,3].

Demodex folliculorum, which is a type of mite, may play a role in the pathogenesis of rosacea by triggering an inflammatory response, mechanically blocking the follicles, or acting as a vector for bacteria [2,3]. Investigators have consistently found bacterial colonization within plugged sebaceous glands in rhinophyma, but it is still unclear whether it is primary or secondary in the disease process [2].

In contrast with rosacea, rhinophyma is more common in men, with the male to female ratio ranging from 5:1 to 30:1 [1,3]. It typically occurs in the age range of 50 to 70 years, although cases in patients younger than 30 years have been reported [1]. The terms "rum blossom" and "whiskey nose" were popular previously in describing the lesion due to its association with alcoholism. However, it was later deemed to be coincidental by many authors, with alcohol sharing no relation with the pathophysiology of rhinophyma [2].

Clinicians should be able to recognize a rhinophymatous nose due to its great masquerade. The diagnosis is mainly a clinical diagnosis based on the typical appearance. However, cases of basal

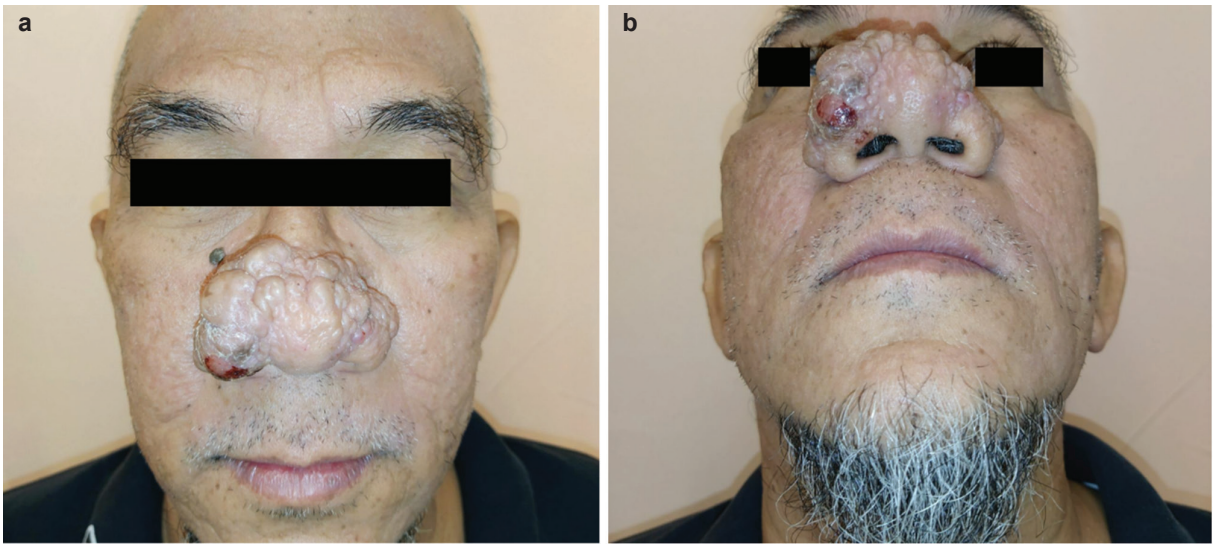

Figure 1. (a) The initial examination from the frontal view revealed asymmetric, diffuse, multilobulated skin hypertrophy over the middle and lower nasal vault. (b) Basal view, revealing a 10 × 7 mm epithelizing ulceration over the right alar rim.

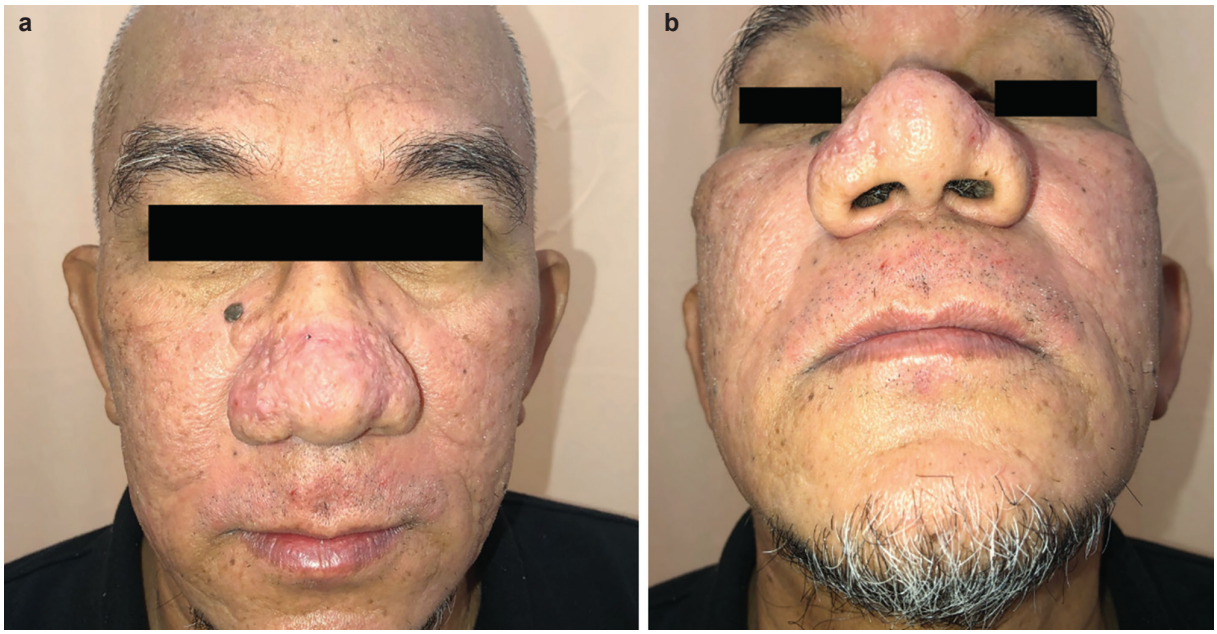

Figure 2. At six months follow-up, the nose appeared to be more congruent with the overall facial topography. (a) Frontal view. (b) Basal view.

cell carcinoma, squamous cell carcinoma, and other rare diagnoses such as sebaceous adenoma, sebaceous carcinoma, eosinophilic granuloma, lupus pernio of sarcoidosis, and angiosarcoma have been found to hide within the rhinophymatous nose after histopathological analysis [2].

Treatment of rhinophyma can be divided into non-surgical and surgical therapy. Non-surgical options, including topical antibiotics, oral antibiotics (e.g., tetracycline and metronidazole), and retinoids (e.g., topical tretinoin and oral isotretinoin), are effective in treating rosacea. Medical treatment of rhinophyma primarily focuses on treating the stimulating factors and complications of this condition. Their role in treating rhinophyma, however, is limited [2,3].

Surgical therapy is the mainstay treatment for rhinophyma. In general, the surgery for rhinophyma involves these two core steps [1]; removal of the phymatous tissue and [2] reconstruction of the resultant nasal defect. There are many modalities available in achieving these two objectives of rhinophyma surgery. Removal of the phymatous tissue can be achieved by blade excision, heated knife excision (Shaw heated scalpel), microdebrider excision, electrosurgery, electrocautery, ultrasonic scalpel (harmonics), cryosurgery, dermabrasion, laser ablation, Versajet™ hydrosurgery, or a combination of any of the aforementioned techniques with varying outcomes [4,5].

After the resection of the phymatous tissue, the resulting defect can either be left to heal via secondary intention or undergo reconstructive procedures involving skin grafting or local skin flaps [2]. In our case, the defect was left to heal via secondary intention. We covered the wound with Kaltostat®, a calcium alginate dressing with hemostatic properties [6] and the ability to absorb exudate and maintain optimum tissue moisture for granulation. Alginate fibers absorb the wound exudate to form a gel matrix. Ion exchange occurs between the calcium ions of the alginate fibers and sodium ions in the exudate, causing the fibers to swell, forming a gel on the wound surface [7].

The most common surgical approach, concomitant with our preferred modality, is the blade excision technique, which in itself can be performed in two main fashions. The first surgical excision technique, which is by far more common than the latter, is the partial-thickness skin excision, followed by healing via secondary intention through reepithelization from the remaining pilosebaceous appendages, which usually takes two to four weeks to complete [2]. The second technique is a full-thickness skin excision and reconstruction of the nasal defect, either by skin grafting or local

flap reconstruction.

Less frequently, a rhinoplasty procedure is also necessary to address any nasal airway obstruction or osseocartilaginous framework deformity secondary to the rhinophyma. One effective rhinoplasty technique is using the nasal subunit principle [8]. The technique comprises degloving the distal half of the nose by elevating six subunit-based flaps, debulking phymatous tissues to perichondrium, enhancing nasal support with sutures/cartilage grafts, trimming excess skin, and redraping the soft tissues [8]. However, this method is technically challenging and followed by border scar contraction due to poor wound healing of the diseased skin and the bacterial load associated with rhinophyma [8,9].

The largest series available in the English literature regarding the surgical treatment of rhinophyma so far is the study by Schweinzer *et al.*, which reported the surgical outcomes of 70 patients with rhinophyma, all of whom underwent partial thickness blade excision and healing via secondary intention [10]. The study reported a 37% recurrence rate and postoperative complications such as bleeding (13%), slight scarring (11%), pain (4%), severe scarring (3%), and infection (1%). However, the literature lacks extensive studies that can safely conclude the optimal method with the best outcome [4,5].

Despite the advent of many new excision and nasal reconstruction techniques, partial-thickness excision with secondary intention wound healing is an 'old and faithful' method. It should never be left out of the reconstructive toolbox in the treatment of rhinophyma.

CONCLUSION

Rhinophyma is a benign condition of the nasal skin that more commonly affects older people. Although benign, it can be disfiguring and stigmatizing for patients. Treatment is mainly surgical, involving various forms of surgical excision followed by different reconstructive options. There is no single best surgical method for all cases, so it is best for all surgeons to self-audit their methods and outcomes and publish them for the benefit of others.

Conflict of interest: None declared.

ETHICAL APPROVAL

All ethical principles were respected. Publication of the article is approved by the Malaysian Secretariat National Institutes of Health (NIH).

CONSENT

Written informed consent was obtained from the patient described for publication of images and case details.

FINANCIAL DISCLOSURE

The authors declared that this study received no financial support.

Acknowledgment

We would like to thank the Director-General of Health Malaysia for his permission to publish this article.

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