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Figure 1: A) Preoperative

CASE REPORT

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Do we really need high technology for excision of rhinophyma?

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Abstract

Rhinophyma is a rare disease that primarily affects Caucasian men in the fifth to seventh decades of life, characterized by a progressive thickening of nasal skin, which produces a disfiguring soft-tissue hypertrophy of the nose. Severe cosmetic deformity and impairment of breathing may coexist, making surgical treatment necessary. A 64-year-old patient who had diagnosis of rhinophyma is discussed, along with the surgical modalities.

Keywords: Acne rosacea, rhinophyma, tangential excision

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Introduction

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Rhinophyma is a rare, disfiguring disease characterized by progressive hypertrophy of the soft tissue of the nose with its increased volume, mainly in the lower half, and often associated with an end-stage of severe acne rosacea. Clinically the lower two-thirds of the nose becomes enlarged and hypervascular, developing a reddish-purple discoloration and a lobular, nodular appearance. ^[1]

Case Report

A 64-year-old man presented with a 5-year history of progressive hypertrophy of his nose. Despite appropriate antibiotic therapy, the patient developed disfiguring rhinophyma and complained of nasal obstruction and a foul odor from his nose. Physical examination revealed significant nasal sebaceous hypertrophy and skin abscesses. Purulent and keratinous material could easily be expressed. No other pathologies were found during otorhinolaryngological examination. Chest X-ray and neck ultrasound evaluations were found to be normal. The whole blood count, peripheral smear and biochemical values of the patient were normal.

Surgical excision of rhinophyma was performed under general anesthesia, and tissues were infiltrated locally with lidocaine 1% and epinephrine 1:100000 to reduce postoperative pain and bleeding during the surgical treatment. We adopted stepwise surgical approach consisting of tangential excision, sculpting with scissors and finally contouring with dermarasio. At the end of the treatment, a Vaseline occlusive dressing with antibiotic (Nitrofurazone 0.2%) ointment was placed. Re-epithelialization occurred spontaneously from retained glandular elements in two weeks. Postoperative follow-up was continued up to six months [\[Figure - 1\]](#).

Discussion

Rhinophyma may have been first recognized in ancient Greece and Arabia. ^{[2],[3]} The name is derived from the Greek 'rhis,' meaning nose; and phyma, meaning growth. ^{[4],[5]}

White people between the age of 45 and 60 years, ^{[6],[7],[8]} with a male-female ratio of 12:1, ^[9] are more frequently affected by this disease, while it is slightly present in the black race. ^[7]

Rhinophyma is most likely a severe manifestation of advanced rosacea. Common and early characteristic in the etiology of acne rosacea is a recurrent and fleeting vasodilatation of the face that, according to Marsili and Cockerell, ^[9] would cause a soft-tissue nasal hypertrophy, gradually giving rise to rhinophyma. In the past rhinophyma was considered a clinical sign of alcoholism, but this relationship has never been demonstrated. ^{[6],[8],[10]} In the same way, it is unclear that there is a correlation between a steroid hormone's excessive effect and the hypertrophy of sebaceous glands, which is peculiar of rhinophyma; or between rhinophyma and some microorganisms, like the Demodex Folliculorum, often isolated in this disease. Irritants, such as alcohol and sunlight, may contribute to the progression of the disease. The increased incidence in men may be due to androgenic influence. Thiboutot *et al.* note that 5-alpha reductase activity is higher in acne-prone sebaceous units relative to that in sebaceous units in non-acne-prone skin. ^{[11],[12]} These epidemiological studies underline the importance of genetic factors not yet identified but do not help to understand the real etiology of this disease, which remains unknown.

In fact, the peculiar morphologic characteristics of rhinophyma are teleangiectasia, hypervascularity, a thick nasal cutaneous layer and nodularity covered by atrophic skin with expanded pores. [6],[8],[10],[13]

Histopathologically, two forms of rhinophyma are described in literature by Tope and Sanguenza. [15] The most common one is characterized by histological lesions, which are peculiar of rosacea. The other is the 'fibrous variant.' In the first case, we can observe massive hyperplasia of sebaceous glands, elastosis in the derma, moderate fibrousness with collagen fibers plunged in a myxoid edematous stroma, many follicular cysts and lympho-histocyte infiltration around expanded blood vessels. In the fibrous variant, we can observe severe fibrotic alterations in the derma, decrease or lack of sebaceous glands and dermal annexes. [15] Not only can additional pathology hide within the rhinophymatous nose, but cancer and other disorders can also actually mimic the disease.

Medical treatment may be used before, and in conjunction with, surgical treatment. [16] There is no agreement about the ideal treatment for rhinophyma; in literature there are various treatment modalities for the treatment of rhinophyma, such as the scalpel, the electrocautery, the dermabrader, ultrasonic scalpel and the carbon dioxide laser. [5],[6],[9],[14],[17]

Surgical treatment with cold knife includes total eradication (full thickness excision) or subtotal eradication (partial thickness excision, superficial decortication) of the diseased tissue. Total eradication (down to the loose areolar layer overlying the osteocartilaginous scaffolding) and the following covering with skin grafts or flaps needed for deeply infiltrating rhinophyma, rhinophyma with underlying neoplasia or rhinophyma fibrous variant where there is excessive fibrous tissue, which make a partial thickness excision difficult. Subtotal eradication by tangential excision of diseased tissue preserves the underlying sebaceous gland and allows spontaneous re-epithelialization and complete healing in two to three weeks. [6],[16],[18],[19]

Subtotal eradication and the following spontaneous re-epithelialization is not only a less complicated surgical procedure but it also guarantees better esthetic results, although a low risk of recurrence remains.

The profuse bleeding during the treatment of a hypervascularized disease like rhinophyma often does not allow an accurate resection of the damaged tissues. An increased rate of recurrence in case of incomplete removal, or a lesion of underlying sebaceous or cartilaginous tissues in case of excessive resection, may occur. For this reason, it is important to examine pathological specimens. We prefer to use the scalpel to cut and local infiltration of dilute epinephrine and bipolar electrocautery for good hemostasis, with minimal thermal injury of the underlying surrounding tissues and a quick and spontaneous re-epithelialization.

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Figures

[Figure - 1]



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