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Rhinophyma: Rare Facial Skin Disease

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Abstract

Rhinophyma is an advanced stage of rosacea, characterized by hypertrophy of the soft tissues of the distal part of the nose, which may be responsible for obstruction of the airways, but above all for progressive alteration of the nasal architecture, resulting in significant aesthetic damage and psychosocial morbidity for the patient. The exact pathophysiology of rosacea and rhinophyma is not well understood. Diagnosis is essentially clinical, with anatomopathological examination aimed at defining the histological variant and eliminating associated malignant tumour lesions. Recently, numerous therapeutic options have been developed to restore the aesthetic subunits of the nose, restoring the patient's self-confidence and integration into society. The aim of this publication is to describe a case of rhinophyma in its "glandular" variant classified at 4 points according to the severity index of Wetzig et al., treated by electrocautery, while carrying out a review of the literature detailing the therapeutic options currently available.

Keywords

Rhinophyma, Rosacea, Surgery, Case Report

1. Introduction

Rhinophyma is an advanced stage of rosacea, characterized by hypertrophy of the soft tissues of the distal part of the nose, which may be responsible for airway obstruction, but above all for progressive alteration of the nasal architecture, resulting in significant aesthetic damage and psychosocial morbidity for the patient (Fink et al., 2017). Recently, numerous therapeutic options have been developed to restore the aesthetic nasal subunits, restoring the patient's self-confidence and integration into society.

This work is of interest in several respects, namely in clarifying the epidemiological,

pathophysiological and clinical features of rhinophyma, and in describing the therapeutic options available through a review of the literature.

2. Case Report

The patient was a 70-year-old man with no previous history of the condition. He presented with a painless hypertrophy of the distal part of the nose, which had been evolving for 5 years and was progressively increasing in volume, without any associated nasal obstruction.

Clinical examination revealed a large, bulbous, firm, erythematous, painless skin hypertrophy with lobule and fissure formation, extending bilaterally from the dorsum of the nose to the wing cartilages and projecting forward approximately 1cm from the tip of the nose (**Figure 1**). Light pressure on the swelling produced a yellow, rubbery discharge. No associated ulceration was found. The clinical diagnosis was rhinophyma, graded at 4 points according to the severity index of Wetzig et al. (Wetzig et al., 2013).

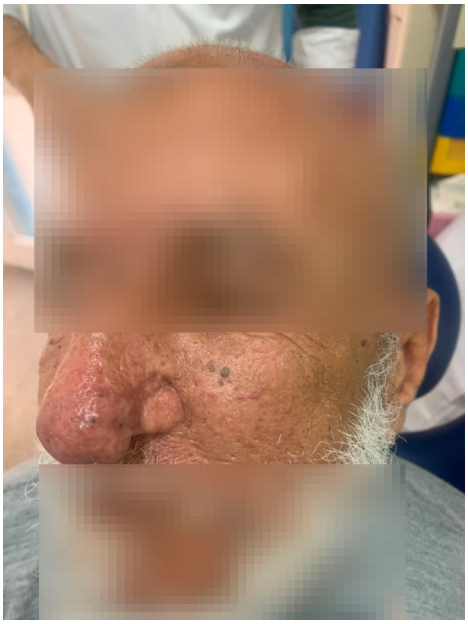

Figure 1. Clinical diagnosis of rhinophyma.

The surgical technique adopted was electrocautery. The phymatous tissue was removed using an electric scalpel under local anaesthetic (Lidocaine 2% + adrenaline 0.5 mg), with tangential excision preserving the deepest part of the sebaceous glands and respecting the underlying lateral and wing cartilages (**Figure 2**), thus redefining the lost contours. Anatomopathological examination of the removed tissue confirmed the diagnosis of rhinophyma, specifying its "classic" glandular variant with prominent sebaceous hyperplasia, dilated infundibules, telangiectasia and the presence of perifollicular infiltrates with no associated signs of malignancy. Directed wound healing was subsequently performed using impregnated compresses and Vaseline. The aesthetics of the nasal subunits were restored,

enabling the patient to regain his self-esteem (Figure 3).

The patient was monitored for two years, with no recurrence noted.

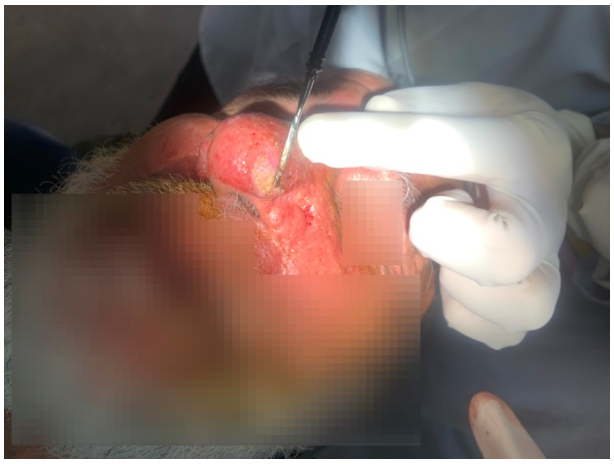

Figure 2. Treatment of rhinophyma by electro cauterization.

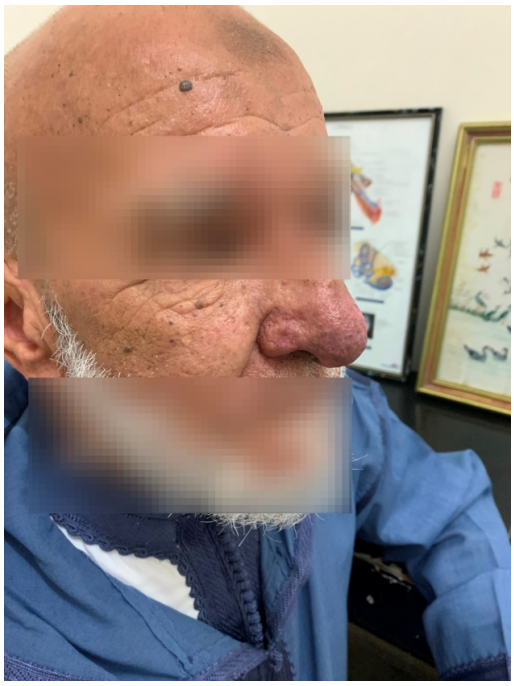

Figure 3. Results at 3 weeks.

3. Discussion

Rhinophyma is defined as soft-tissue hypertrophy of the distal part of the nose leading to disruption of nasal architecture, airway obstruction and deformation of the nasal aesthetic subunits (Fink et al., 2017; Blatière, 2022). This chronic skin condition, considered an advanced stage of rosacea, mainly affects the Caucasian population between the fifth and seventh decades of life. There is a clear male predominance, linked to high androgen activity in men (Fink et al., 2017).

The exact pathophysiology of rosacea and rhinophyma is not well understood.

Rosacea is considered a multifactorial disease, involving heat, stress, UV, smoking, alcohol, spicy foods, hot drinks and microorganisms such as Helicobacter pylori (Hetherington, 2009). Rhinophyma is considered an advanced stage and subtype of rosacea, characterized by chronic edema, hypervascularization, hypertrophy of connective tissue and sebaceous glands, and fibrosis (Fink et al., 2017). Excessive alcohol consumption, considered the main cause, has been the subject of much controversy. Indeed, Curnier disproved this theory by comparing a group of patients consuming alcohol with a control group (Lazzeri et al., 2013). Four histological variants of rhinophyma have been described by Jansen (Skala et al., 2005): the "classic" glandular form, the fibrous form, the fibro angiomatous form and the actinic form.

Phymatous disease complicating rosacea mainly affects the nose (rhinophyma). However, it can develop on the chin (gnathophyma), forehead (metophyma), ears (otophyma) and eyes (blepharophyma) (Skala et al., 2005). Rhinophyma is clinically diagnosed by bulbous, erythematous nasal soft-tissue hypertrophy, erythema associated with telangiectasia, nodules and lobules. Airway obstruction may be present in severe cases following collapse of the external nasal valve (Fink et al., 2017). It affects the lower two-thirds of the nose, including the nasal tip, nasal fin and distal part of the nasal dorsum, without appreciable involvement of the nasal walls or underlying cartilaginous and bony structures (Fink et al., 2017). Wetzig have proposed a Rhinophyma Severity Index (RHISI) based on clinical appearance, to assess both severity and outcome after treatment (Wetzig et al., 2013): Mild thickening: 1 point; Moderate skin thickening: 2 points; Severe thickening with formation of small lobules: 3 points; Lobules and fissures: 4 points; Giant Rhinophyma: 6 points, which is the maximum number of points. However, malignant tumors can take on the appearance of rhinophyma or arise over an existing rhinophyma, which is why it is important to exclude them by anatomopathological examination. Indeed, Lazzeri found 15% to 30% of skin cancers associated with rhinophyma (Lazzeri, 2012), although the frequency of skin cancers in these patients is not high in the literature.

Unlike rosacea, drug treatments are not effective, which is why interventional techniques are the gold standard of treatment (Blatière, 2022). The principle of surgical treatment is to correct aesthetic deformity and secondary nasal airway obstruction by removing phymatous tissue while preserving aesthetic nasal subunits. The pilosebaceous units may promote re-epithelialization. Anatomopathological examination of the excised tissue should specify the histological variant of the rhinophyma and confirm the absence of signs of malignancy (Fink et al., 2017).

There are numerous surgical techniques available to treat rhinophyma, including dermabrasion, electrocautery, laser therapy (CO2 laser, erbium: YAG laser, neodymium laser), radiofrequency, cryosurgery, cold knife or Shaw scalpel excision with secondary scarring and the subunit method (Fink et al., 2017). While all these treatment options are effective, they differ in terms of complications and recurrence. Indeed, the subunit method, intended for severe cases of rhinophyma, has the highest complication and recurrence rate, followed by the CO_2 laser.

However, the latter offers many advantages, including precise decortication, controlled haemostasis, a blood-free operating field and deep tissue penetration through the epidermis and superficial dermis, but unfortunately does not provide specimens for histopathology (Fink et al., 2017; Prado et al., 2013). Cold scalpel excision is more cost-effective and faster, enabling more precise excision of tissue and thus better preservation of pilosebaceous units and faster re-epithelialization (Fink et al., 2017). It does, however, have certain drawbacks, namely poor haemostasis during the procedure, with poor visualization of the surgical field, necessitating the use of electrocautery (Fink et al., 2017; Roje & Racic, 2010). The Shaw scalpel offers similar advantages to cold excision, with the added benefit of integrated hemostasis in the medium, but an increased risk of thermal injury and poor postoperative healing (Fink et al., 2017).

Whatever the treatment method, around 90% of patients are satisfied with the result and would recommend treatment for rhinophyma. Results were equivalent between patients receiving laser therapy and those benefiting from scalpel and electrocautery excision (Fink et al., 2017).

4. Conclusion

Rhinophyma is a pathology whose pathophysiology remains poorly elucidated. However, there are numerous therapeutic options with proven efficacy, enabling the restoration of nasal aesthetic subunits, restoring the patient's self-confidence and integration into society.

Declarations

- Informed consent: Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.
- All data are available in the patient's medical file.
- Provenance and peer review. Not commissioned, externally peer-reviewed.
- All authors approved final version of the manuscript.
- There is no source of funding.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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