



# Rhinophyma: a surgical treatment option

## *Rinofima: opção cirúrgica como tratamento*

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### ■ ABSTRACT

**Introduction:** Rhinophyma is a condition involving chronic inflammation of the nose and is characterized by progressive hypertrophy and hyperplasia of sebaceous glands and connective tissue. Rhinophyma leads to an appearance of nasal elephantiasis, which is caused by the congestion of dermis vessels. Its etiology is mostly associated with alcohol abuse. Rhinophyma is considered by some researchers to be an advanced stage of acne rosacea. Here, we report a case of rhinophyma that was surgically treated with decortication and electrocoagulation at the Plastic Surgery Service of the University Hospital of the Federal University of Santa Catarina. **Methods:** A review of medical and photographic records of a case of rhinophyma was conducted. **Results:** The patient was underwent surgical treatment with favorable outcomes. **Conclusion:** There are several treatments for rhinophyma, with decortication and electrocoagulation being an excellent therapeutic option.

**Keywords:** Rhinophyma; Surgical reconstructive procedures; Nasal diseases; Nose.

### ■ RESUMO

**Introdução:** Rinofima é uma inflamação crônica dos tecidos do nariz, caracterizada por hipertrofia e hiperplasia progressivas das glândulas sebáceas e do tecido conjuntivo. Determina um aspecto de elefantíase nasal, secundária à congestão dos vasos da derme. Sua etiologia está associada, na maioria dos casos, ao uso abusivo de álcool. É considerada por alguns autores como sendo um estágio avançado de acne rosácea. O artigo tem como objetivo relatar um caso de rinofima, tratado cirurgicamente no Serviço de Cirurgia Plástica do Hospital Universitário da Universidade Federal de Santa Catarina com decorticação e eletrocoagulação. **Método:** Foi realizado revisão de prontuário e registro fotográfico de um caso de rinofima. **Resultados:** Paciente foi submetido a tratamento cirúrgico com evolução favorável. **Conclusão:** Existem diversos tratamentos para rinofima, sendo que a decorticação e a eletrocoagulação constituem uma excelente opção terapêutica.

**Descritores:** Rinofima; Procedimentos cirúrgicos reconstrutivos; Doenças nasais; Nariz.

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## INTRODUCTION

Rhinophyma is a condition involving chronic inflammation of the nose and is characterized by abnormal coloration and texture, vascularization impairment, irregular exophytic growth, and telangiectasias<sup>1</sup>. It features progressive hypertrophy and hyperplasia of sebaceous glands and nasal subconjunctive tissue, which are caused by the congestion of dermis vessels<sup>2</sup>. These alterations can culminate in a complete deformation of the nose.

Although usually asymptomatic, it can lead to a mechanical compression of nasal structures, in addition to significant emotional impairment. This results in the appearance of elephantiasis. Historically, it was associated with various other names, such as hyperplastic acne, "cauliflower" nose, "potato" nose, or "drinker" nose<sup>2</sup>. In 1845, Hebra used a terminology derived from the Greek *rhino* (nose) and *phyma* (growth), which resulted in rhinophyma becoming the universally accepted name<sup>3</sup>.

Its etiology is not fully understood. Some authors associate this disease with an advanced stage of centrofacial acne rosacea, and they consider it an uncommon subtype (3.7%)<sup>4,5</sup>. However, other authors believe that rhinophyma is a different disease, since, unlike rosacea, it prevails in men and can manifest without typical acne.

There is evidence of associated genetic factors. Cases of twins, uncles, or grandparents of patients affected have been described. Previously, several risk factors have been described, including alcohol abuse and sunlight exposure. It is also described in association with condiments, caffeine, hot foods, and other factors causing facial redness<sup>6</sup>.

The diagnosis is mostly clinical and should be differentiated from acne vulgaris, seborrheic dermatitis, lupus erythematosus, mycosis fungoides, sarcoidosis, and cutaneous tuberculosis<sup>7</sup>. Drug treatment, particularly for advanced cases, seems to provide less satisfactory results than does surgical treatment<sup>8</sup>. The literature describes some surgical options, all of which seek to remove sebaceous glands and to promote the recovery of nasal contour<sup>9</sup>.

## OBJECTIVE

In this report, we describe a case of rhinophyma that was surgically treated at the Plastic Surgery Service of HU/UFSC (University Hospital, connected to the Federal University of Santa Catarina), Florianópolis, SC, with decortication and electrocoagulation.

## CASE REPORT

A 63-year-old male patient sought medical attention at the Plastic Surgery Service of HU/UFSC, with

complaints of progressive nasal volume associated with deformity and difficulty in breathing that had worsened over the preceding 10 years. A significant history of sun exposure was described in his medical records, along with notes that he did not consume alcohol or smoke. He also did not present with other pathologies.

Upon physical examination, a significant increase in nasal volume, telangiectasias, erythema, cutaneous thickening, nodules, and dilated pilosebaceous pores were observed. An impaired chin area and ear lobes were also detected, as shown in figure 1. For these reasons, we suspected rhinophyma. Clinical treatment for this suspected condition was never performed. We observed lowering of the external nasal valve, with no changes in inspiration.

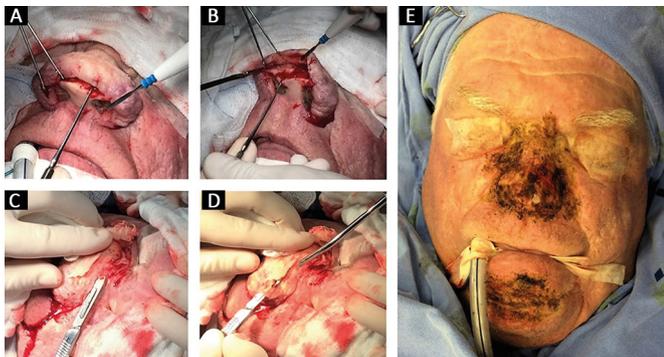


**Figure 1.** Preoperative evaluation. **A:** Patient with increased nasal volume and chin impairment; **B** and **C:** Pre-operative profile pictures of the patient; **D:** Top view where telangiectasias, erythema, and cutaneous thickening can be observed; **E:** Image shows the mechanical compression of nasal structures.

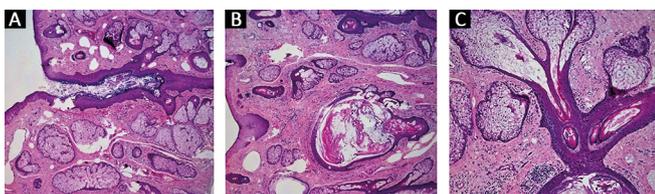
The patient was placed under general anesthesia. After local infiltration with anesthetic and vasoconstricting solution, surgical resection was conducted using a cold scalpel (blade 20). The entire compromised area was resected in the nasal region, while preserving cartilage and an approximate subcutaneous segment of 1-2 mm. This was followed by cauterization with electrocautery. Cauterization of the chin region and ear lobes was performed, as shown in figure 2.

Healing by second intention was chosen (i.e., no grafts were used). Daily dressings with essential fatty acids oil were applied in the area from the immediate postoperative period until complete healing (i.e. for approximately 60 days). The anatomopathological report corroborated the clinical suspicion of rhinophyma (Figure 3).

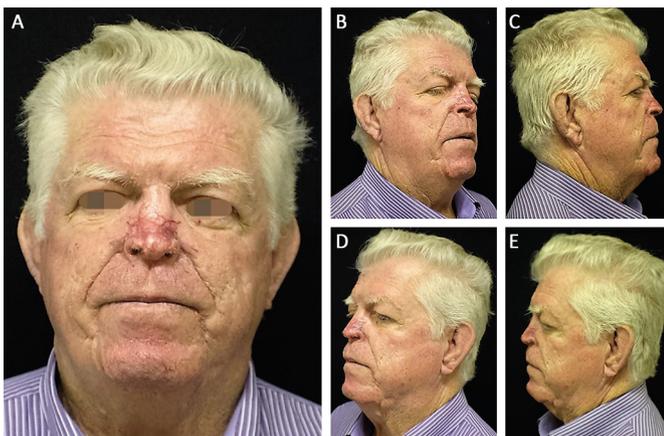
The patient presented a quite favorable evolution and was satisfied with the aesthetic and functional results, showing improved emotional and respiratory aspects. His evolution was complete 60 days after surgery (Figure 4). Nasal dyschromia of the scar was shown, without other changes. The procedure performed in this case and the reporting of its outcomes followed the principles of the Declaration of Helsinki, revised in 2000. The patient provided written informed consent, which provided for



**Figure 2.** Surgical procedure. **A** and **B**: Images showing the rhinophyma resection plan; **C** and **D**: Surgical resection with a cold scalpel. The entire affected area in the nasal region was resected, preserving the subcutaneous tissue and cartilage; **E**: Cauterization with electrocautery. Cauterization of the chin region.



**Figure 3.** Anatomopathological evaluation of the resected area. The images indicate the presence of sebaceous hyperplasia with dilated follicular units and keratin "plugs" in the dermis. Fibrosis and mononuclear inflammatory infiltration surrounding the area can be observed. **A**: 40x magnification image; **B**: Image with 40x2 increase; **C**: 100x magnification image.



**Figure 4.** Postoperative day 60. Pictures of the patient, 60 days after surgery. **A**: Image showing complete healing of the nasal region with dyschromic scar; **B** and **C**: Right profile pictures of the patient, indicating optimal results; **D** and **E**: Left profile pictures of the patient 60 days after rhinophyma.

the use of information contained in his medical record as well as the publication of his images.

## DISCUSSION

Rhinophyma is a pathology that requires aggressive treatment, not only due to the aesthetic and functional deformity that it causes, but also due to the risk of associated malignancy. Malignancy may occur, thereby possibly resulting in basal cell carcinoma and, more rarely,

squamous cell carcinoma or angiosarcoma<sup>7</sup>. In this case, no associated neoplasia was found.

In considering the etiology of rhinophyma related to acne rosacea, we suggest classifying the subtype according to the degree of impairment<sup>10</sup>. Acne rosacea is a form of chronic inflammation without a permanent cure. In the early stages, combination therapy offers better results when compared to monotherapy<sup>10</sup>. Conversely, for advanced cases, such as rhinophyma, patients are advised to undergo surgical treatment, which results in the removal of sebaceous, hypertrophic, and hyperplastic glands; re-establishes nasal contour; and possibly resolves respiratory difficulty caused by the mechanical compression of the nose.

Several surgical techniques have been described in the literature, including graft excision or skin flap application; excision with healing by second intention; CO<sub>2</sub> or argon laser ablation; cryosurgery, electrosurgery; and dermabrasion<sup>2</sup>.

There is no consensus regarding the best surgical treatment option. However, certain techniques are more beneficial, such as those that remove potentially associated tumors when opting for resection. Several authors do not recommend local flaps, which is an aggressive treatment for an otherwise benign pathology. However, in some severe cases, such as exceptional conduct, partial skin grafting is recommended<sup>2</sup>.

The complications resulting from treatment, regardless of the therapeutic option, include unsightly scars, asymmetry, and dyschromia. Among these complications, perforation is considered to be the most serious. In addition, the risk of relapse should be considered. In the case reported herein, we chose surgical resection followed by electrocoagulation, without interurrences.

## CONCLUSION

As a stigmatizing disease that presents with deformity and malignant potential, rhinophyma should be considered during medical evaluation. Surgical resection is one of the available therapeutic options that can have promising results. In our clinic, the patient presented herein experienced a satisfactory evolution regarding aesthetic and functional aspects following resection and electrocoagulation. We consider this technique to be a simple, efficient, and safe procedure.

## COLLABORATIONS

**ICL** Analysis and/or interpretation of data; statistical analyses; final approval of the manuscript; conception and design of the study; completion of surgeries and/or experiments; writing the manuscript or critical review of its contents.

**DOB** Analysis and/or interpretation of data; statistical analyses; final approval of the manuscript; conception and design of the study; completion of surgeries and/or experiments; writing the manuscript or critical review of its contents.

**DFVA** Analysis and/or interpretation of data; statistical analyses; final approval of the manuscript; conception and design of the study; completion of surgeries and/or experiments; writing the manuscript or critical review of its contents.

**GPW** Analysis and/or interpretation of data; statistical analyses; final approval of the manuscript; conception and design of the study; completion of surgeries and/or experiments; writing the manuscript or critical review of its contents.

**AKDA** Analysis and/or interpretation of data; statistical analyses; final approval of the manuscript; conception and design of the study; completion of surgeries and/or experiments; writing the manuscript or critical review of its contents.

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