



NODULAR RHINOPHYMA TREATED WITH EXCISION AND DERMABRASION - A CASE REPORT

Plastic Surgery

Dr. K. K. Senthilkumaran

Associate Professor, Department of Plastic Surgery. Government K.A.P.V. Medical College, Trichy.

Dr Ashok Swaminathan*

Associate Professor, Department of Plastic Surgery, Government Cuddalore Medical College. *Corresponding Author

ABSTRACT

A 55-year-old man presented with an unusually severe nodular type of rhinophyma. The nodular masses were excised and dermabrasion was done with micro burr to debulk and sculpt the tissues. The technique of using micro burr is straightforward and demands no additional training. It enables the surgeon to rapidly and accurately sculpt the nose to achieve an excellent aesthetic result.

KEYWORDS

Rhinophyma, dermabrasion, micro burr

INTRODUCTION:

Rhinophyma, a disfiguring disease of the elderly males, is characterised by slow and progressive hypertrophy of sebaceous glands and connective tissue over the lower part of the dorsum of the nose. The term rhinophyma is derived from the Greek word "Rhis" meaning nose and "phyma" meaning growth.

This condition was documented by Arab and Greek physicians as early as 2000 B.C.¹ The condition has been described in the literature as "BeerNose" "Brandy Nose" and "Rum Nose". The lower part of the nose gradually enlarges and the excess weight of the phymatous tissue on the alae lead to collapse of the internal and external nasal valves leading to functional nasal obstruction. The affected patients are shunned by the society due to the stigma associated with the disfigured noses. Surgical correction restores the architecture of the nose and often brings back the social life of the patient.

Case Report

A 55 year old man, a security personnel by occupation presented with a five year history of

- gradually growing swelling of the nose
- nasal obstruction and
- unsightly appearance causing psycho-social problems in work place.

He was a smoker and alcohol abuser. On examination, there was diffuse enlargement of the nose from the dorsum to the tip. There was about twelve nodular mass measuring 2cm×1cm arising from the dorsum and tip of the nose. There was collapse of the nostril with occlusion of the nasal valve area. No other intra nasal pathologies were found. Chest X-ray and ECG were normal. The blood sugar and other biochemical parameters were within normal limits.

Excision of rhinophyma was performed under local anaesthesia. Tissues were infiltrated with 1% lidocaine and epinephrine 1:100000 to reduce bleeding. The masses were excised tangentially with scalpel No: 15 blade, taking care to leave a layer of dermis. Final contouring was done by dermabrasion using micro burrs. The rpm setting for burr for dermabrasion can be varied to increase or decrease the rate of tissue debridement. We used the micromotor with 30000 rpm. The nose has to be held firm with one hand for precise dermabrasion.

Figure 1 burr held like a pen

Appropriate burr heads of 2mm to 5mm sizes can be selected to dermabrade the soft tissues in a controlled fashion. We found it helpful to keep the burr head flat and flush with the nose when reducing the flat subunits of the nose such as the sidewall and dorsum and moved in a fan shaped fashion. When addressing the convex subunits such as the ala and tip, the burr was gently rotated as it traversed over the convexity.

Care was taken to stay above the deepest part of the pilosebaceous unit to allow spontaneous epithelialisation and to avoid scarring. Following satisfactory sculpturing, haemostasis was achieved using selective bipolar electrocoagulation. At the end of the treatment, a wet collagen

sheet was applied over the dermabraded nose which was covered with light padded dressings. Outer dressings were removed after 48 hours leaving the adherent collagen sheet. Patients were instructed to apply daily Neo-sporin antibiotic ointment daily. The adherent collagen sheet peeled off gradually, as re-epithelialization occurred spontaneously from retained glandular elements in two weeks. Postoperative follow-up was continued up to six months. The cosmetic and functional long-term results are excellent.

Histopathology section showed a lesion of the skin involving subcutis and dermis which is composed of lobules of hypertrophied sebaceous glands and follicular plugging separated by fibrous tissue infiltrated with chronic inflammatory cell infiltrate and congested blood vessels, consistent with rhinophyma. The diseased tissues did not reveal the presence of neoplastic cells.

DISCUSSION

Rhinophyma is common between the ages of 45 and 60 years,^{[6],[7],[8]} with a male-female ratio of 12:1.^[9] It is more predominant in the black race.

Pathologically rhinophyma is a severe manifestation of acne rosacea. Common and early characteristic of acne rosacea is a recurrent and fleeting vasodilatation of the face.^[9]

In the past, rhinophyma was considered a clinical sign of alcoholism, but this relationship had never been demonstrated.^{[6],[8],[10]} It is unclear whether there is an element of steroid induced hypertrophy of sebaceous glands, which is peculiar for rhinophyma. Though some microorganisms, like the Demodex Folliculorum were often isolated in this disease the infective aetiology could not be proved.

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. It is found that 5-alpha reductase activity is higher in acne-prone pilosebaceous units as compared to that in pilosebaceous units of non-acne-prone skin.^{[11],[12]} Genetic factors are not known. The morphologic characteristics of rhinophyma are telangiectasia, hypervascularity, a thick nasal cutaneous layer with nodularity covered by atrophic skin with expanded pores.^{[6],[8],[10],[13]}

Histopathologically, two forms of rhinophyma are described^[15]. The more common one is characterized by histological lesions which are typical of rosacea. The other is the 'fibrous variant'. In our case, we observed massive hyperplasia of sebaceous glands, elastosis of the dermis, moderate fibrosis with dense collagen fibers in a myxoid edematous stroma. Many follicular cysts with lympho-histocyte infiltration around expanded blood vessels were also seen.

In extremely fibrous variant, the picture is one of extensive fibrosis of the dermis, and decrease or lack of sebaceous glands and dermal annexes.^[15]

Medical treatment, solely may be used in the early stages, and in conjunction with surgical treatment in late cases.^[16] As such there is no

ideal treatment for rhinophyma; In the literature, various excision modalities such as the scalpel, the electrocautery, the dermabrader, ultrasonic scalpel and the carbondioxide laser are described. [5],[6],[9],[14],[17]

Skin grafts or flaps are needed for deeply infiltrating rhinophyma, rhinophyma with underlying neoplasia or fibrous variant of rhinophyma where there is excessive fibrous tissue, which make a partial thickness excision difficult.

Subtotal removal by tangential excision followed by dermabrasion to contour the tissues preserves the underlying pilosebaceous units and allows spontaneous re-epithelialization. Complete healing usually occurs in two weeks. [6],[16],[18],[19]

This modality of treatment is the least expensive method and guarantees better aesthetic results, with a low risk of recurrence.

The profuse bleeding can be a problem and a challenge during the treatment of a hypervascularized disease. We prefer to use local infiltration of 1:200000 epinephrine for good hemostasis and bipolar electrocautery to cauterise specific bleeding points. Perfect haemostasis required for a split skin graft bed is not mandatory, as quick and spontaneous re-epithelialization usually occurs.

CONCLUSION

Excision of the nodular skin followed by dermabrasion with careful preservation of islands of pilosebaceous units result in an acceptable cosmetic result with good definition of nasal features. As we used this method successfully in our patient, we strongly recommend this method even for giant and nodular rhinophyma.

We found the micro dermabrader very useful, for rapid, precise and aesthetic reduction of rhinophyma.

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