

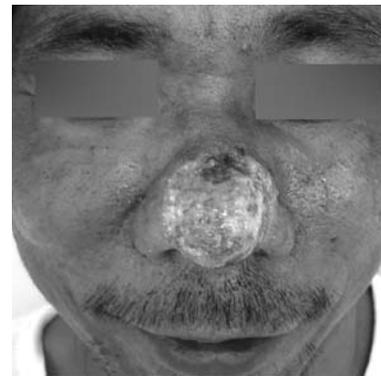
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## Rhinophyma



**Figure 1: pre-operative photograph**



**Figure 2: 3 days post-operative photographs**



**Figure 3: 1 month post-operative photograph**



**Figure 4: 6 months post-operative photograph**

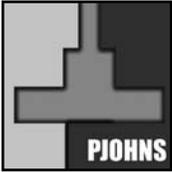
### CASE

A 46-year-old Filipino male with no known co-morbidities was referred for progressive deformity of his nose over a 19- month period. He was initially treated by dermatology for a few months with topical 1% hydrocortisone cream and various antibiotics including oral tetracycline 250 mg twice a day, but the condition persisted (Figure 1). He was diagnosed to have rhinophyma which was excised using coblation®, and the deformity was reshaped to a normal nasal contour (Figure 2). Antibiotic-impregnated non-adherent gauze was applied, and wound care continued until re-epithelialization occurred in three to four weeks (Figure 3). There was no recurrence of the rhinophyma on follow-up at 6 months (Figure 4).

### DISCUSSION

Rhinophyma is a descriptive term from the Greek word “*rhis*” meaning nose and “*phyma*” meaning growth.<sup>1</sup> Common among white males between 40 and 60 years of age, it is characterized by soft-tissue hypertrophy of the nose due to progressive thickening of nasal skin. Males are predominantly afflicted with a ratio to females of about 5:1 to 30:1.<sup>2</sup> It may also be

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found in children, although rarely.<sup>3</sup> Rosacea progressing to acne rosacea is the only clearly associated entity and precursor of rhinophyma. This begins as an increased facial redness in adolescents and young adults and can involve other facial regions. The vessels of the nose would become progressively dilated, skin thickening occurs, and may become oily. The nose thickens at the tip and the sebaceous glands hypertrophy. As the deformity worsens, fissures, pits, lobulations and pedunculations grotesquely change the shape of the nose. Rebora described four stages: the pre-rosacea stage where frequent facial flushing is seen; the vascular rosacea stage of thickened skin, telangiectasias, and erythema; the inflammatory stage with erythematous papules and pustules; and the fourth stage, which he described as rhinophyma.<sup>2</sup>

The pathophysiology begins with vascular instability leading to a loss of fluid into the dermal interstitium, which causes inflammation and fibrosis. There is sebaceous gland hyperplasia and hypertrophy and the ducts become elongated, dilated and plugged.<sup>1</sup> Rhinophyma has two distinct histopathologic appearances. The most common shows histopathologic features of rosacea and the second pattern shows telangiectasia, diffuse dermal fibrosis with abundant mucin, and a virtual absence of pilosebaceous structures.<sup>4</sup> This can also occur with cyclosporine use.<sup>5</sup> Demodex folliculorum mites regularly reside in the pilosebaceous units and may be seen in histologic sections.<sup>1</sup> Graham and Mc Gavran (1964)<sup>2</sup> demonstrated that basal cell carcinomas occur in direct proportion to the concentration of sebaceous glands in sun-exposed skin.

Medical treatment has been limited to avoidance of stimulation factors, appropriate cleanliness, and treatment of secondary infection and inflammation with topical and systemic antibiotics and steroids.<sup>1</sup> Once the violaceous, hypertrophic, bulbous stage of the disease becomes manifest, only surgical manipulation (of which many methods

exist) can reverse the deformity.<sup>1</sup>

Originally, all surgeries were skin grafted, as this condition would recur. The first and oldest method of excision is the cold knife technique which has less risks of scarring and hypo pigmentation according to Redett.<sup>2</sup> Linehan demonstrated faster re-epithelialization with similar aesthetic results compared to electro-surgery, which was first reported for rhinophyma in 1950 by Rosenberg<sup>2</sup>. The latter's main advantage was hemostasis. The CO<sub>2</sub> laser was first reported by Shapshay in 1980<sup>2</sup> who claimed that it was more hemostatic, with easier postoperative care. In 1983, Wenig<sup>2</sup> was the first to use Argon laser for rhinophyma and advocated its use for hemostasis and on telangiectasias but states that it is a poor instrument for debulking. Eisen<sup>2</sup>, in 1986, reported the use the Shaw scalpel (Hemostatix™ Medical Technologies, Bartlett, TN) for rhinophyma. The YAG laser was used by Wenig in 1993 with equally cosmetic results and shorter healing times compared to CO<sub>2</sub> laser<sup>2</sup>.

Dermabrasion is another technique used in rhinophyma, usually as an adjunct to other methods<sup>2</sup>. The Bovie® (Bovie Medical Corporation, St. Petersburg, FL) coagulator readily destroys sebaceous glands by low temperature, forming the theoretic basis for cryosurgery with the advantage of minimal bleeding and pain. The microdebrider<sup>6</sup> and FloSeal (Fusion Medical Technologies Inc, Mountain View, CA) are also adjuncts in the surgical treatment of rhinophyma which provide satisfactory results. Coblation® (ArthroCare Corporation, Austin, TX) is a relatively new technique in soft tissue surgery that was introduced in 1997<sup>7-8</sup>. The dissection technique involves passing bipolar radiofrequency energy to ablate and coagulate soft tissue without thermal energy. This supposedly results in less surrounding tissue damage producing less pain, less bleeding and shorter operating time. Since there appears to be no distinct advantages in the different therapeutic modalities, no one modality is universally endorsed.

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