

Sculpting Resection of Rhinophyma Using the Shaw Scalpel

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Background: Rhinophyma is a disfiguring disorder of the nasal skin characterized by hypervascularity, sebaceous gland hyperplasia, occluded sebaceous ducts, and dermal fibrosis. It has no known effective medical treatment; however, a myriad of surgical treatments have been reported. We report an effective, efficient, and safe approach to treat this disorder using the Shaw scalpel to surgically sculpt the nose.

Objective: To evaluate the efficacy and safety of using the Shaw scalpel to treat rhinophyma.

Methods: We performed a retrospective review of 7 male patients (age range, 58-81 years) who underwent pri-

mary surgical treatment of rhinophyma with the Shaw scalpel.

Results: A good to excellent outcome was noted in all 7 patients. No perioperative complications occurred. Essentially no blood loss was noted during or after the procedures.

Conclusion: Use of the Shaw scalpel as the sole surgical instrument and method is a safe, efficient, and effective means to treat rhinophyma.

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RHINOPHYMA IS A DISFIGURING nasal skin disorder of unknown etiology. It is characterized by hypervascularity, sebaceous gland hyperplasia, occluded sebaceous ducts, and dermal fibrosis.¹ It is widely believed that this condition represents the last stage of rosacea in the nose and usually affects men in their fifth to seventh decades of life.^{1,2} Although retinoids and antibiotics have proven useful for the treatment of rosacea, there is currently no effective medical treatment for rhinophyma.³ Treatment of rhinophyma is surgical and consists of either partial-thickness decortication with subsequent healing by reepithelialization from adjacent tissue and deep adnexal structures, or full-thickness resection with graft or flap reconstruction.¹ Full-thickness skin resection with subsequent reconstruction is associated with increased risk of scarring and additional donor site morbidity. As a result, partial-thickness decortication procedures have replaced full-thickness skin resection as the current treatment of choice.³

Satisfactory cosmetic outcomes have been reported with a variety of decortication techniques. Commonly used techniques include cold knife resection, carbon dioxide or erbium laser ablation,

dermabrasion, excision by electrocautery or radio frequency, harmonic scalpel resection, or excision with the microdebrider.^{1,4-10} Various combinations of these techniques have also been proposed.^{11,12} We report herein the outcome of patients with rhinophyma treated with partial-thickness decortication and secondary healing using the Shaw scalpel (Hemostatix, Bartlett, Tennessee) as the sole surgical modality and discuss the advantages of this modality over other reported techniques.

METHODS

Institutional review board approval was obtained to retrospectively review patients with rhinophyma who presented to the Central Arkansas Veterans Healthcare System and the University of Arkansas for Medical Sciences during 2005 and 2006. During this period, 7 patients were noted to have considerable cosmetic and quality-of-life impairments secondary to this disease process and underwent surgical resection with the Shaw scalpel. The hypertrophied tissue associated with the rhinophyma was excised under general anesthesia or conscious sedation with local anesthesia using the Shaw scalpel at temperature settings of 160°C to 200°C. No electrocautery, cold cutting, lasers, radio frequency devices, or other ablative instruments were used

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Figure 1. Intraoperative photograph demonstrating the dissection plane and hemostasis obtained when using the Shaw scalpel.

during surgery. In general, the alar nasal regions were where the most conservative amount of tissue was resected to preserve nasal alar support and avoid alar collapse. **Figure 1** displays a representative intraoperative photograph of the amount of tissue excised and the hemostasis achieved using this technique. Once the rhinophymatous tissues were excised, the surgical site was covered with double antibiotic ointment (DAO) covered with Telfa dressing (Kendall, Mansfield, Massachusetts) or Xeroform gauze (Kendall) and allowed to heal by secondary intention. The patients were seen 6 to 8 weeks after surgery for routine follow-up. Preoperative and postoperative photographs were compared, and the subjective outcome (rated as excellent, good, fair, or poor) was determined by the senior authors (E.V., M.S.K.). Pathologic specimens of the excised tissue were sent for permanent section to rule out the presence of an incidental malignant lesion.

RESULTS

Seven patients who underwent surgical treatment for rhinophyma were identified (**Table**). All of these patients underwent the procedure that used the Shaw scalpel as the sole surgical instrument. Although most underwent general anesthesia, 1 patient underwent this procedure while under conscious sedation owing to his existing comorbid conditions. Two patients had infiltration with lidocaine hydrochloride, 1% (1:100 000 epinephrine) prior to incision. All but 1 patient had postoperative dressings consisting of DAO and Telfa. All 7 patients had an outcome rating of at least good at 6 to 8 weeks after surgery. Five of 7 patients had an excellent outcome. **Figure 2** shows a representative patient before surgery and at 10 weeks after surgery. Excellent surgical hemostasis was obtained in all patients, and no significant dif-

ference was subjectively noted when lidocaine with 1:100 000 epinephrine was infiltrated. The temperature setting on the Shaw scalpel was progressively increased in this series (ie, from 160°C to 200°C) because improved tissue coagulation, ease of resection, and unchanged hemostasis were noted toward the higher range. One of 7 surgical specimens was noted to have fragments of basal cell carcinoma on histopathologic analysis. The patient was notified of this finding, and he opted to have it followed up clinically. No perioperative complications occurred. One patient was noted to have slight nasal alar collapse at his 3-month follow-up. This patient had a considerable amount of his rhinophyma located on his alar surface and rim.

COMMENT

The main advantage of using the Shaw scalpel in the treatment of rhinophyma is that it allows excision of the hypertrophied tissue with excellent hemostasis. The cold knife resection can be cumbersome because the hypervascularity in rhinophyma causes considerable bleeding.¹³ In contrast, electrocautery excision can provide improved hemostasis, but the standard narrow Bovie tips are suboptimal for precise contouring and resculpting of the nose, and the potential for increased thermal damage can produce less cosmetically acceptable outcomes.¹³ The Shaw scalpel integrates the precision of the cold knife blade for resculpting the nose with the hemostatic properties of electrocautery.

The Shaw scalpel is advantageous for treating rhinophyma when compared with laser or dermabrasion ablative techniques because it preserves a specimen for histopathologic evaluation. As noted in 1 patient in this series, a malignant skin lesion can coexist within a background of rhinophyma or appear similar to a rhinophymatous lesion.¹⁴ Lasers may provide satisfactory contouring and hemostasis; however, the tissue is not available for histopathologic examination because laser ablation vaporizes the tissue. Furthermore, laser techniques can prolong operating times owing to layer-by-layer ablation, especially in cases in which rhinophyma is significantly hypertrophied.¹³

The harmonic scalpel has been reported to offer the same hemostatic advantages of the Shaw blade and may cause less thermal damage to surrounding tissue.^{8,15} One clear disadvantage of this equipment, however, is the bulkier hand piece, which may adversely affect the quality of fine contouring.

Alternatively, dermabrasion allows precise contouring of the nose but tends to produce considerable intraoperative bleeding. In addition, dermabrasion does not provide a surgical specimen for histopathologic examination and may pose a risk of transmission of blood-borne pathogens to the operating room personnel owing to the release of aerosolized microdroplets of blood.^{16,17}

Shaw knife sculpting of the rhinophymatous nose has been previously presented.¹² However, that article¹² described subsequent carbon dioxide laser and dermabrasion use for fine contouring. We have presented our technique for the surgical treatment of rhinophyma in a

Table. Demographics, Treatment, and Outcomes of Patients Treated for Rhinophyma With the Shaw Scalpel^a

Patient No./ Age, y ^b	Anesthesia	Shaw Scalpel Setting, °C	Wound Care ^c	Outcome
1/63	IVS	NR	DAO, Telfa	Good
2/58	GETA	160	DAO, Telfa	Good
3/74	GETA, LI	180	Xeroform, occlusive	Excellent
4/68	GETA, LI	180	DAO, Telfa	Excellent
5/81	GETA	200	DAO, Telfa	Excellent
6/66	GETA	200	DAO, Telfa	Excellent
7/61	GETA	200	DAO, Telfa	Excellent

Abbreviations: DAO, double antibiotic ointment; GETA, general endotracheal anesthesia; IVS, intravenous sedation; LI, local infiltration with lidocaine hydrochloride, 1%, with 1:100 000 epinephrine; NR, setting not recorded.

^aHemostatix, Bartlett, Tennessee.

^bAll of the patients were white men.

^cBoth Telfa dressing and Xeroform gauze are manufactured by Kendall, Mansfield, Massachusetts.



Figure 2. A patient with rhinophyma. Preoperative (A-C) and 10-week postoperative (D-F) photographs after surgical excision using the Shaw scalpel (Hemostatix, Bartlett, Tennessee).

series of patients using the Shaw blade as the sole treatment modality. This single modality approach yields consistently satisfactory cosmetic outcomes. As a result, this

technique does not necessitate the use of other instruments, such as laser or dermabrader, for fine contouring. Our data indicate that this approach is safe, effi-

cient, and effective. In addition, attributes associated with the Shaw scalpel, such as its relatively low capital equipment cost, preservation of a surgical specimen for histopathologic review, excellent hemostasis, and precise contouring, support it as a meritorious choice for the treatment of rhinophyma.

In conclusion, rhinophyma is a disfiguring condition with a myriad of surgical treatments. Each modality has its unique advantages and pitfalls. In any resection of rhinophyma, caution should be applied in the extent and depth of resection in the alar region to avoid alar collapse. Any inherent alar weakness should be noted preoperatively, the patient should be counseled accordingly in the preoperative period, and a plan to address potential postoperative exacerbation should be discussed. We report our success with the Shaw scalpel as a primary surgical instrument for treating this disorder. The success is the result of this instrument's ability to provide hemostasis and precise surgical sculpting. A review of 7 patients treated consecutively over a 2-year period found this technique to be a safe, efficient, and effective treatment for rhinophyma.

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