Management of Rhinophyma Using Radiofrequency Surgery of the Nose

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To date, surgery remains the primary option for the treatment of rhinophyma. Over the last few years many different surgical techniques have been described. With the introduction of a radiofrequency monopolar cutting probe, effective, easy-to-handle and fast tissue resection is now possible. The probe can also be used for coagulation, thus producing excellent visibility of the surgical field and minimizing damage to the surrounding tissue. Specially designed probes facilitate the reshaping and sculpturing of the nose and help to even out irregularities on the skin surface.

Fig. 1a: Monopolar wire loop electrode (REF 36 08 12)

Fig. 1b: Monopolar ball electrode (REF 36 08 17)

Introduction: Rhinophyma, first described in 1845 by Ferdinand von Hebra, represents the most severe expression of the final stage of acne rosacea. It is characterized by a benign, slowly growing enlargement of the lower third of the nose with irregular thickening and grotesque nodular formation of the hypertrophic nasal skin. Histology is mandatory to rule out possibly underlying skin cancer. Although the bony and the cartilaginous framework of the nose are unaffected, the aesthetic subunits of the nose can be distorted. Additionally, functional impairment in terms of nasal airway obstruction can arise. Multiple surgical approaches to the treatment of rhinophyma have been described, some carrying the risk of persistent intraoperative bleeding due to the exceptional vascularity of the nose. Controlling hemorrhage by electrocautery or laser carries the danger of damaging the underlying cartilage by thermal injury.

Case study: A 75-year old patient with a history of progressive hypertrophy of his nose presented himself at our clinic. In his younger years he was diagnosed with acne rosacea. Over the years his nose slowly enlarged and lost its normal contours. Physical examination revealed a hypertrophy of the sebaceous and subcutaneous tissue of the lower third of the nose, primarily of the tip of the nose and of the alar region. Purulent and keratinous material could easily be squeezed from the nose. To objectively compare cosmetic results, photographs were taken from the anterior-posterior and side view before surgery, during and immediately after RF resection and the follow-up visits.

Methods: Radiofrequency tissue resection of the rhinophyma was performed on an outpatient basis under local anesthesia. The patient rested on the OR table in a slightly upright position. The nose was anesthetized by injecting a ring block around the entire nose using 1% prilocaine with 1:200.000 epinephrine. An additional local anesthetic was applied to the lateral nasal walls and the columella, achieving full anesthesia within 10 minutes.
Electrosurgical resection of the rhinophyma was performed with the CURIS® 4 MHz radiofrequency unit (Sutter/Germany) in the "Cut 2" monopolar mode at an intensity of 34 watts and in the "Softspray" mode at an intensity of 40 watts. With a triangular-shaped wire loop and a round-shaped wire-loop electrode of 10 mm in diameter (both Sutter/Germany) the rhinophyma was first delaminated in thin layers down to the level at which the skin appeared normal. Great care was taken to preserve pilosebaceous units to prevent scarring. After excising redundant tissue, sculpturing of the nasal contour was achieved by using a ball electrode of 3 mm diameter (Sutter/Germany) to even out irregularities on the nasal surface.

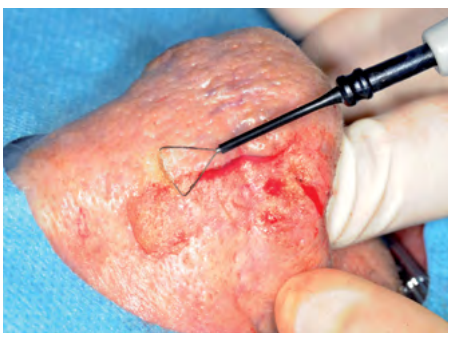

Fig. 2: Radiofrequency monopolar resection of a rhinophyma while carefully preserving pilosebaceous units to prevent scarring.

Fig. 3: Sculpturing of the nasal contour by evening surface irregularities.

Fig. 4: CURIS® 4 MHz radiofrequency generator

Results: The patient tolerated the procedure well and was closely monitored by regular outpatient follow-up examinations for two months after the intervention. No significant pain was reported in the postoperative period. Already two weeks later the patient's nasal skin started to re-epithelize. Neither wound infections nor scarring nor pigmentary disturbances occurred. The patient claims to have gained a better quality of life as he no longer tends to avoid social interactions as he used to do before.

Conclusion: Radiofrequency surgery in the treatment of rhinophyma has proven to be an easy-to-handle, fast and efficient treatment modality. The combination of monopolar cutting and coagulation at the same time not only facilitates the re-shaping und sculpturing of the nose but also guarantees gentle hemostasis with excellent visibility of the surgical field.

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References: 1. von Hebra F. Atlas der Hautkrankheiten. Wien: Braunmüller, 1856. **2.** Hoasjoe DK, Stucker FJ. Rhinophyma: review of pathophysiology and treatment. J Otolaryngol. 1995; 24: 51-56. **3.** Sadick H, Goepel B, Bersch C, Goessler U, Hoermann K, Riedel F. Rhinophyma: diagnosis and treatment options for a disfiguring tumor of the nose. Ann Plast Surg 2008, 61: 114-120. **4.** Aferzon M, Millman B. Excision of rhinophyma with high-frequency electrosurgery. Dermatol Surg 2002, 28: 735-738.

Featured Products

Monopolar ball electrode

Qty.	REF	Description
5	**36 08 17**	Ball electrode malleable, Ø 3 mm

Monopolar wire loop electrode

Qty.	REF	Description
5	**36 08 15**	Wire loop electrode, malleable Ø 8 mm, tungsten 0.2 mm

Monopolar wire loop electrode

Qty.	REF	Description
5	**36 08 12**	Wire loop electrode, malleable triangular 9 mm, Tungsten 0.2 mm

Monopolar needle electrode

Qty.	REF	Description
5	**36 08 04**	Needle electrode fine, malleable, straight, Ø 0.3 mm

SuperGliss® non-stick

Qty.	REF	Description
1	**78 01 75SG**	SuperGliss® non-stick bipolar forceps, 1.0 mm tip, angled, working length: 60 mm

CURIS® 4 MHz radiofrequency generator
Basic equipment

Qty.	REF	Description
1	**36 01 00-01**	CURIS® 4 MHz radiofrequency generator (incl. mains cord, user's manual and test protocol)
1	**36 01 10**	Foot switch two pedals for CURIS® (cut & coag), 4 m cable
1	**37 01 54 L**	Bipolar cable for CURIS®, length: 3 m
1	**36 07 04**	Monopolar handpiece (pencil) cut & coag, shaft 2.4 mm, cable 3 m
1	**36 02 38**	Cable for single-use patient plates, length: 3 m

available patient plates:

1 (x100)	**29 00-5**	Single-use patient plate, split, for adults and children, PU 20 x 5 pcs.
1 (x50)	**95 80 04**	Single-use patient plate, split, for adults, PU 10 x 5 pcs.
1 (x50)	**95 80 05**	Single-use patient plate, split, for children, PU 10 x 5 pcs.
1	**36 02 26**	Re-usable rubber patient plate

Unit settings / Other accessories*

CURIS®
4 MHz radiofrequency generator

Loop electrode: Monopolar CUT 2 or SOFTSPRAY
Power adjustment: 30 to 40 watts

Ball electrode: Monopolar CONTACT Coag
Power adjustment: 5 to 8 watts

SuperGliss® non-stick: Bipolar PRECISE
Power adjustment: 15-30 watts

Valid for the CURIS® with the orange label.

CURIS®
4 MHz radiofrequency generator

Loop electrode: Monopolar CUT 2 or SOFTSPRAY
Power adjustment: 40 to 60 watts

Ball electrode: Monopolar CONTACT Coag
Power adjustment: 25 to 36 watts

SuperGliss® non-stick: Bipolar PRECISE
Power adjustment: 15-30 watts

* Please consider that this information is not meant to serve as a detailed treatment guide. Always adjust according to patient and application.

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Lengths for orientation purposes; may vary slightly.

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