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Radiofrequency Ablation of Papular Melanocytic Naevi

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Radiofrequency has been established as a gentle surgical method for precise cuts and coagulation in aesthetic surgery. The range of radiofrequency surgery has now been extended to ablative, vaporising methods in aesthetic medicine. This novel method complements the armamentarium of the dermatologist in the operating room as well as those of the plastic surgeon and ENT specialist. Elevated benign naevi may now be removed elegantly and painlessly producing excellent cosmetic results.

Introduction: One of the most common requests of patients in a cosmetic clinic is the removal of elevated moles in the head and neck region. Commonly these lesions are treated with cryosurgery, electrocautery, ablative laser or by scalpel excision [1, 2]. Alternatively, these naevi can now be removed with a 4 MHz radiofrequency unit. Radiofrequency surgery facilitates a removal that is gentle to the tissue and produces hardly any scars: While the electrode itself is not heated, it concentrates and delivers energy to the target tissue. As a result, the surrounding tissue is spared. In contrast, low-frequency surgical interventions produce significantly larger lateral necrotized areas [2].

Fig. 1: Papillomatose nevus cells on left cheek

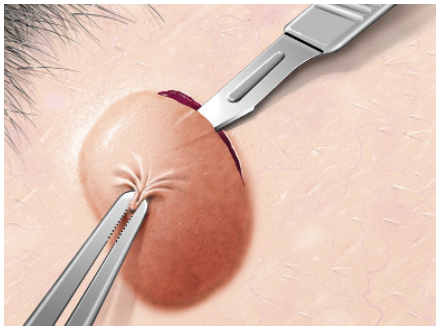

Fig. 2: Tangential excision of papillomatose nevus

Case Study: A 38-year-old woman came to our clinic with two papular naevi on her left cheek (Fig. 1). Dermatoscopic evaluation yielded no signs of malignancy.

After local anaesthesia with prilocaine 1% and 1:100,000 adrenaline, tangential excision of the protruding naevus part was performed with a No. 15 scalpel blade (Fig. 2). For the ensuing, more refined ablation, the radiofrequency unit CURIS® and a rounded Sutter electrode (REF 360816) were employed (Fig. 3).

The remaining part of the lesion was removed by repeated, gentle, brush-like strokes with the electrode in a pure CUT mode (Fig. 4). A power adjustment of only 4 watts was sufficient. From time to time denaturated tissue was removed with a damp cotton gauze. The end point of treatment was reached when radiofrequency ablation reached a level just slightly below the surrounding skin. Postoperatively, the patient applied an antibiotic ointment for seven days. During a follow-up visit after 8 weeks the patient expressed her satisfaction with the cosmetic result (Fig. 5).

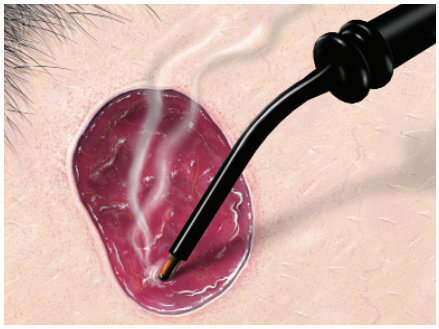

Fig. 4: Removing the remaining part of the lesion

Fig. 5: Eight weeks after radiofrequency ablation

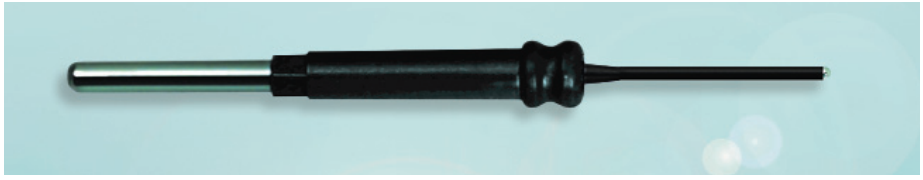

Fig. 3: Radiofrequency electrode (REF 360816) Sutter Medizintechnik GmbH/Germany

Fig. 6: CURIS® radiofrequency unit (REF 870010) Sutter Medizintechnik GmbH/Germany

Practical Advice: The following procedure has been established empirically: To reduce the risk of scar formation, the depth of the ablation should go only minimally below the level of the surrounding skin. Prior to treatment the patient should be informed that radiofrequency surgery is a gentle method and that a touch-up treatment might be indicated if the naevus recurs. The resected part of the naevus has to be sent in for histological examination. This serves for quality control purposes of the diagnosis and will provide additional information in the event that the naevus recurs and shows pseudomelanoma features.

To reduce unpleasant smells a smoke evacuator may be used.

For hairy papular naevi radiofrequency epilation with special needles is recommended as a first step. Additionally to removing hair, radiofrequency epilation also reduces the risk of naevus recurrence as nevus cells are thermally damaged around the hair follicle. Congenital naevi have a higher tendency to recur because they extend deeply into the dermis and often involve hair follicles.

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References: 1. Hudson-Peacock MJ, Bishop J, Lawrence CM. Shave excision of benign papular naevocytic naevi. Br J Plast Surg. 1995; 48:318-22. **2.** Tursen U, Kaya TI, Ikizoglu G. Round excision of small, benign, papular and dome-shaped melanocytic naevi on the face. Int J Dermatol. 2004; 43:855. **3.** Niamtu, J. 4.0 MHz Radio Wave Applications in Cosmetic Facial Surgery. Cosmetic Dermatology, 2003 16:11. 33-46.

Ordering Information

870010 – CURIS® basic set with single-use patient plates

Qty.	REF	Description
1	360100-01	CURIS® radiofrequency generator (incl. mains cord, user's manual and test protocol)
1	360110	Footswitch two pedals for CURIS® (cut & coag), 4 m cable
1	370154 L	Bipolar cable for CURIS®, length 3 m
1	360704	Monopolar handpiece (pencil) cut & coag, shaft 2.4 mm, cable 3 m
1	360236	Cable for single use patient plates, length 4.5 m
1 (x50)	360222	Safety patient plates, single use, packing 5 x 10 pcs. (not shown)
Optional		
1*	360226	Patient plate with cable, re-usable, length 4 m

360816 – Flexible radiofrequency ball electrode

Qty.	REF	Description
1	360816	Flexible ball electrode, shaft diameter Ø 2,4 mm

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