Radiofrequency Reduction and Resection of Hypertrophic Lingual Tonsils

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Introduction: The incidence of enlarged lingual tonsils is significantly higher than their detection. This is due both to the location in an area of the laryngo-pharynx rather difficult to visualize, and due to the lack of standardized diagnostic methods. Little work has been done to study the functions, diagnosis and treatment of hyperplastic processes in the area of the tongue base [1].

Surgical interventions in this area are considered undesirable because of the high risk of bleeding and difficult access. At the same time, the presence of hypertrophy and chronic inflammation of the lingual tonsil may cause discomfort, difficulty in swallowing and breathing, sometimes mistaken for a manifestation of pharyngitis. It may also be a cause for snoring and sleep-related breathing disorders as well as possibly play a role in systemic diseases. In recent years radiofrequency surgery devices have been developed for ENT applications, but not much has so far been written about the surgical treatment of hyperplastic processes of lingual tonsils using this technology. We have used the RF generator CURIS® (Sutter Medizintechnik GmbH, Freiburg/Germany) to treat patients with hypertrophic lingual tonsils.

Material and Methods: We saw 112 patients ranging from 30 to 75 years of age and suffering from hypertrophy of the lingual tonsils. We have identified a group of patients with a diffuse enlargement of the lingual tonsils and a group of patients with a partial enlargement of the tonsils or the presence of papillary proliferations and cysts in the tonsils. In both groups we took special note of patients who were also snorers and suffered from sleep apnea. Those patients underwent polysomnography before and after surgery. Diffuse proliferation of tonsil tissue, which did not impair swallowing and breathing, was treated by tissue reduction. For this procedure we selected 87 patients.

Application of Radiofrequency: Under endoscopic control we applied topical 10 % lidocaine, and infiltrated an anesthetic of 2 % lidocaine (5 - 6 ml) in 3 - 4 points of the upper parts of the amygdala with a needle bent at 45 degrees. Patients were sitting in an ENT chair. We used a bipolar electrode (REF 70 04 99) and the CURIS® RF generator in "RaVoR" mode. After administration of the anesthetic we inserted the electrode in the same place in the tonsils 3 or 4 times and activated the RF energy. After the intervention patients remained

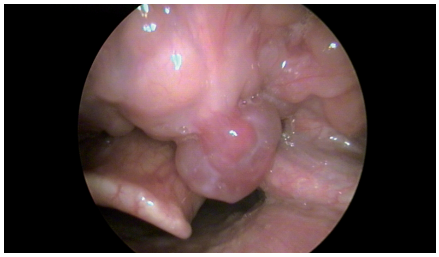

Fig. 1: Hypertrophy and cyst of lingual tonsils in male patient (46 years).

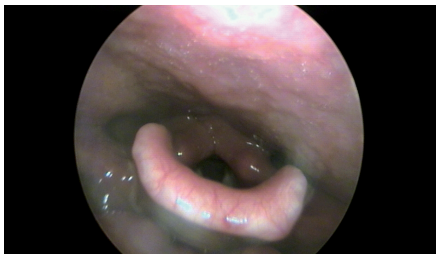

Fig. 2: The same patient, one day after radiofrequency dissection of the lingual tonsils.

under observation for about 2 hours and then, in the absence of bleeding and impaired swallowing were dismissed with the recommendation to rest, be careful and observe a gentle diet for 3 days. A follow-up was performed the next day, then on the 5th, 10th and 30th day. Long-term results were evaluated after one year. Patients who had been diagnosed with acute lingual tonsil hypertrophy, or partial hypertrophy, cysts in the tonsils, or pronounced crypts with caseous contents, were subjected to a more invasive treatment, namely resection of lingual-tonsil tissue (25 patients). Resections were carried out under naso-thracheal intubation anesthesia in our ENT hospital. Patients were in horizontal position on the operating table. We used a standard gag with a tongue-locking device. Under visual control (70 degrees telescope) the hypertrophied lingual tonsils were seized with a curved clamp and dissected with a monopolar electrode (REF 36 03 65) (CURIS® in microdissection mode CUT 2). After removal of the tonsils, the surface of the wound was treated in the "RaVoR" mode of the CURIS®. One of the 25 patients operated in our hospital suffered from mild bleedings from the vessels of the tongue. The hemorrhage was stopped by pressing a tamponade on the bleeding site, then coagulating it, and finally covering it with TachoComb®. The healing process remained uneventful thereafter.

Results and discussion: One year after the interventions we saw 87 of the patients again. Among them were 70 who had undergone outpatient reduction of the lingual tonsils while 17 had undergone resection of the lingual tonsils in the hospital. Of the 70 patients 51 (73 %) had no complaints, and follow-up examinations revealed objective evidence of successful volume reduction while 19 (27 %) stated that no clinical effect had been achieved. One year after resection of the lingual tonsils we performed a follow-up examination on 17 patients. It was found that 14 of them did not have any complaints about discomfort in the throat, and during the inspection there were no signs of recurrence of hypertrophic lingual tonsils or inflammation. Thus, resection proved to be effective in 14 out of 17 cases (82 %). One year after performing surgery on 19 patients diagnosed with OSA and snoring, we found that the snoring and sleep apnea had been significantly reduced, and in 9 cases had even ceased. We therefore suggest that the condition of the lingual tonsils be observed by doctors when treating snoring as this may be the primary region of obstruction and not the nasal cavity or soft palate. The data garnered suggest a high efficiency of radiofrequency methods employed for reduction and resection of hypertrophic lingual tonsils.

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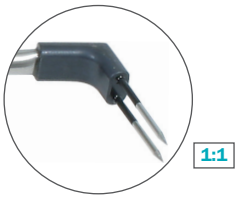
Featured Product

700499 – Bipolar needle tongue-base probe

Qty.	REF	Description
1	700499	Bipolar needle electrode for the tongue base with protective insulation, working length 110 mm



360365 – ARROW*tip*™ electrode

Qty.	REF	Description
2	36 03 65	Tonsillotomy electrode, 45° angled, needle 10 mm, Ø 0,3 mm, working length 65 mm

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

Qty.	REF	Description
1	360100-01	CURIS® radiofrequency generator (incl. main cord, user's manual and test protocol)
1	360110	Footswitch two pedals for CURIS® (cut & coag), 4 m cable
1	370154L	Bipolar cable for CURIS®, length 3 m
1	360704	Monopolar handpiece (pencil) cut & coag, shaft 2.4 mm, cable 3 m
1	360238	Cable for single use patient plates, length 3 m
1 (x50)	360222	Safety patient plates, single use, packing 5 x 10 pcs. (not shown)

Unit settings / Other accessories
CURIS®
Bipolar electrode: Bipolar RaVoR
Power adjustment: 12-16 watts
Arrow*tip*™ electrode: Monopolar CUT 2
Power adjustment: 20-25 watts

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