Radiofrequency vs topical steroid treatment of chronic nasal obstruction: A prospective randomized study of 84 cases

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Nasal congestion caused by mucosal swelling, concha hypertrophy, vasomotoric rhinitis, allergy, and hyper-reactivity have been treated with different nasal steroids and surgical methods such as submucosal conchotomy. Existing studies have shown that these methods are not cost-effective and that patients tend to abandon them sooner or later. Both methods have a slightly increased risk of complications. There has also been an increased tendency, especially among the younger population to abuse prescribed decongestant nasal sprays. After a period of using nasal steroids, most patients report that they return to decongestant nasal sprays to optimize nasal breathing. Seasonal allergies, such as pollen and grass, may cause micro-inflammation. This, in turn, will contribute to increased mucus-producing cells and swelling of the nasal mucosa. The inferior turbinate is often hypertrophic and produces increased nasal discharge and congestion. Chronic nasal congestion causes other symptoms such as snoring, tiredness, headaches, and to some extent even social problems.

Introduction

In recent years an increasing number of patients with chronic nasal congestion has contributed to the review of different treatment methods such as radiofrequency (RF) conchotomy, a method which has not been around for more than 10–12 years. The method is very easy to carry out and convenient for the patient. The treatment is administered on an outpatient basis with no hospitalization or subsequent sick leave. First, a local anesthetic of 5 ml of 1% carbocaine with adrenaline is injected in the inferior turbinate. Then the RF probe is inserted in three locations in the lower turbinate. The whole treatment takes 8–10 min. Afterwards the patient can go home or directly back to work without any pain, bleeding or nasal tamponade. Our hypothesis for the study was that the RF surgery for chronic nasal congestion was a more effective treatment than nasal steroids.

Material and methods

The study was randomized and prospective with initially 86 participants: 51 (60.7%) men and 33 (39.3%) women. We selected our patients from a list of those with rhinological problems who were referred from primary care to a specialist clinic for assessment in accordance with the inclusion/exclusion criteria for the study. Inclusion criteria were: chronic nasal congestion, allergy, hyper-reactivity, and turbinate hypertrophy. Exclusion criteria were septum deviation, nasal polyps, pregnancy, mental health problems, and language barriers. The age range for participation in the study was 18–65 years. Patients who were considered to be appropriate candidates for the study were informed verbally and in writing. Patients who agreed in writing to participate in the study were divided into two groups by random selection: red (RF turbinate reduction) and yellow (nasal steroid), and subsequently assessed for ENT status, rhinomanometric saturation, and skin test. Each patient came to the ENT outpatient department four times in total. The study began in September 2006 with a few months of pre-study training and was completed in September 2009. The measurement of the air flow through the nose was made before and after each treatment and before and after decongestant nasal drops. The result from three rhinomanometry sessions, as well as the patients' replies to the questionnaires were analyzed by well-known statistical methods. The RF generator we used was from Sutter Medizintechnik, Germany, as well as the re-usable bipolar RF-probe.

Results

Our results support combined RFTR plus nasal steroids as a good method in certain cases. The advantage of using the RF method for nasal congestion, runny nose and for the improvement of headaches and snoring, is the flexibility and cost-effectiveness of the method for both the patient and society. The procedure is almost free of bleeding compared to other surgical methods. Nasal tamponades are not required and patients can go back to to work on the same day, free of pain – which cannot be taken for granted with other surgical techniques. The procedure is done under local anesthesia and takes no more than 8 to 10 min, with less surgery-related strain for the patient. In conclusion, it can be said that the method is useful and effective both in combination with nasal steroids and as a simple method of treatment by itself.

Fig. 1: Endoscopic view of the probe fully inserted

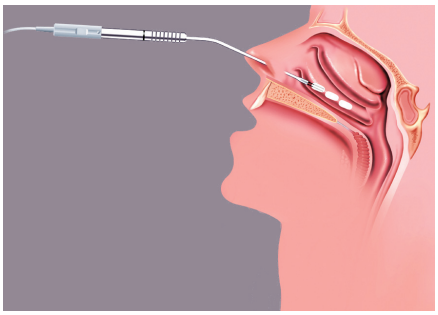

Fig. 2: Nasal turbinate puncture sites with schematic view of the inserted probe (REF 70 04 62; Sutter, Germany)

Conclusion

In conclusion, our results show that in most respects RFTR is more effective than nasal steroids alone. In certain cases RFTR plus nasal steroid in combination may be recommended, especially in cases with annoying nasal secretion and sneezing.
Comparison of the efficacy of RF surgery versus nasal steroid shows that the surgery is significantly more effective than nasal steroids for reducing the patients' symptoms of nasal congestion. The increase in rhinomanometric flow attained by the combination of RF surgery followed by nasal steroids – compared to nasal steroids followed by RF surgery – comes very close to being statistically significant.

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