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Clinical Observation on the Treatment of Chronic Hypertrophic Rhinitis with Endoscopic Nasal Dilatation

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Abstract: Objective: To observe the clinical effect of endoscopic nasal dilatation in the treatment of chronic hypertrophic rhinitis. Methods: A total of 100 patients who received treatment in the Department of Otolaryngology of our hospital from January 2019 to January 2021 were selected as the study subjects. Patients were divided into a control group and an experimental group using the method of numerical random allocation. There are 50 patients in each group. Patients in the control group were treated with medication, while patients in the experimental group were treated with endoscopic nasal dilatation. Compare the differences in the efficacy, nasal congestion symptoms, and nasal resistance between the two groups of patients after treatment. Results The total effective rate of treatment in the experimental group (98.00%) was higher than that in the control group (69.00%), with a statistically significant difference ($P<0.05$); The visual analogue scale (VAS) scores, nasal resistance, and nasal endoscopy scores of the two groups of patients after treatment were lower than those before treatment, and the VAS scores, nasal resistance, and nasal endoscopy scores of the experimental group were lower than those of the control group after treatment, with a statistically significant difference ($P<0.05$); There was no statistically significant difference in the total incidence of complications between the two groups ($P>0.05$). Conclusion The treatment of chronic hypertrophic rhinitis with endoscopic nasal dilatation can achieve good results.

Keywords: Endoscopic Nasal Dilatation; Chronic Hypertrophic Rhinitis; Effect Analysis

1. Data and Methods

1.1 General information

A total of 100 patients with chronic hypertrophic rhinitis who were treated in the Department of Otolaryngology of our hospital from January 2019 to January 2021 were selected as the study subjects. The patients were divided into a control group and an experimental group based on a digital random allocation method, with 50 patients in each group. Inclusion criteria: Patients identified as having symptoms of nasal congestion and other diseases, underwent nasal cavity examination, and found that the surface of the nasal mucosa was uneven, thick, and mulberry shaped. The patients understood the experimental content and voluntarily accepted the study. Exclusion criteria: Patients who have received nasal surgery and are accompanied by intellectual and mental disorders, as well as patients with other major diseases, refuse to cooperate with this researcher. In the experimental group, there were 32 males and 18 females; Age: 19-69 years old, with an average age of (35.12 ± 3.25) years; The course of disease ranged from 1 to 7 years, with an average of (4.03 ± 0.12) years. In the control group, there were 23 males and 27 females; Age: 17-68 years old, with an average age of (38.12 ± 3.26) years; The course of disease ranged from 1 to 8 years, with an average of (4.20 ± 0.53) years. Compared with the general data of the two groups of patients, the difference was not statistically significant ($P>0.05$) and was comparable. This study has been approved by the Hospital Medical Ethics Committee.

1.2 Method

The patients in the control group were treated with a mixture of Xiaozhiling and procaine in a ratio of 1:1. During treatment, the patients were injected bilaterally at the same time, with a dose of 2ml per side for 7 days each time. Three times were used as a course of treatment, and a total of 2 courses of treatment were implemented.

Patients in the experimental group were treated with endoscopic nasal cavity dilatation.

The external fixation of the inferior turbinate is performed using a nasal endoscope (0 °), a cutting suction device, and the patient's inferior turbinate mucosa is planed to reduce the hypertrophy of the inferior turbinate, thereby achieving the effect of volume expansion. If the patient has hyperosteogeny of the inferior turbinate, the submucosal portion of the bone is removed. After inferior turbinate surgery, the patient's posterior nostrils should be fully exposed and the total nasal tract width ≥ 5mm. During the reduction of the inferior turbinate, try to preserve the relevant integrity of the mucosa of the turbinate.

During nasal septoplasty and nasal septum three line tension reduction surgery, try to preserve the relevant supporting effects of cartilage and bone scaffolds, and process the relevant curves that exhibit abnormal tension during growth (which can lead to deviation of the nasal septum), so as to restore the biomechanical effects of the nasal septum. If the patient has a simple spinous process of the nasal septum, an incision should be made in front of the deviation, and the deviation spinous process should be removed without suturing the incision.

Internal fixation of the middle turbinate Under endoscope, the root of the patient's middle turbinate is peeled off, pressed inward for displacement, and an expanded sponge is filled in the patient's middle nasal meatus to promote the expansion of the middle nasal meatus. After middle turbinate surgery, ensure that the distance between the lateral wall of the patient's nasal cavity and the lower edge of the turbinate is ≥ 5mm.

Treatment of uncinate process and ethmoidal vesicle If a patient with chronic hypertrophic rhinitis has uncinate process and ethmoidal vesicle, the uncinate process should be removed and the ethmoidal vesicle should be opened to widen the middle nasal tract, thereby promoting the increase in the relevant ventilation area of the nasal cavity.

After the surgery is completed, an inflatable sponge is used for tamponade, and antibiotic intervention is routinely performed to prevent infection. After 48 to 72 hours, the tamponade is removed, and nasal irrigation is performed 2 weeks later.

1.3 Observation indicators and evaluation criteria

To observe and analyze the treatment effects of two groups of patients with chronic hypertrophic rhinitis, and compare the differences in nasal congestion symptoms, nasal resistance, and nasal endoscopy scores between the two groups before and after treatment, while analyzing the occurrence of complications in the two groups.

Treatment effect: The nasal cavity is well ventilated, and the middle turbinate can be seen. The distance between the lower turbinate and the nasal floor and septum is ≥ 5mm, which is a significant effect; The nasal ventilation has improved, and it can be seen that the middle turbinate is effective if the distance between its lower turbinate and the nasal floor and septum is less than 5mm; Compared with before treatment, the nasal ventilation and physical signs of the patient have no significant changes, which is considered invalid. Total effective rate of treatment= (significant+ effective) cases/total cases × 100%.

1.4 Statistical methods

SPSS21.0 statistical software was used to analyze the data. The measurement data were expressed as mean ± standard deviation ($x \pm s$), using t-test, and the counting data were expressed as rate (%), using χ In the 2-test, the difference was statistically significant with $P<0.05$.

2. Results

2.1 Comparison of total treatment effectiveness between two groups of patients

The total effective rate of treatment in the experimental group (98.00%) was higher than that in the control group (69.00%), with a statistically significant difference ($P<0.05$).

2.2 Comparison of VAS scores, nasal resistance, and nasal endoscopy scores between the two groups of patients before and after treatment

There was no statistically significant difference in VAS score, nasal resistance, and endoscopic score between the two groups before treatment ($P>0.05$); The VAS score, nasal resistance, and nasal endoscopy score of the two groups after treatment were lower than those

before treatment, and the VAS score, nasal resistance, and nasal endoscopy score of the experimental group after treatment were lower than those of the control group, with a statistically significant difference ($P<0.05$).

3. Discussion

Chronic hypertrophic rhinitis is one of the most common clinical diseases. In clinical treatment, the common treatment method is drug treatment. In order to ensure the treatment effect, most patients currently choose to receive surgical treatment, and different treatment methods have differences in treatment efficacy. The traditional surgical treatment for chronic hypertrophic rhinitis used to be to cut a portion of the patient's inferior turbinate, which is simple and can damage the integrity of the patient's inferior turbinate mucosa, thereby affecting the physiological function of the nasal cavity. "Nasal cavity expansion surgery, including external fixation of inferior turbinate, internal fixation of middle turbinate, and three line tension reduction plasty of nasal septum, can remove the lesion according to the specific disease situation of the patient, better preserve the normal structure, anatomy, and function of the patient's nasal cavity, effectively expand the nasal sinus and nasal cavity, improve ventilation volume, reduce ventilation resistance in the patient's nasal cavity, and alleviate symptoms such as upper airway obstruction."

For small nasal septal nodules in the nasal cavity, treatment may not be required. If the nodules are large, equal interventions such as cutting, suction, and planing may be implemented. The middle turbinate is the main site through which gas is inhaled, and its size and shape can directly affect the relative patency of the middle nasal tract. If the middle turbinate is inverted and bubbly, it can cause compression and obstruction of the middle nasal tract. However, the implementation of middle turbinate internal displacement and fixation intervention can solve the above problems, which can maximize the preservation of the mucosa on the outside and inside of the patient's middle turbinate, and the operation is simple to avoid affecting the patient's sense of smell, And there will be no postoperative adhesion. After surgery, it should be ensured that the distance between the lateral wall of the patient's nasal cavity and the lower edge of the middle turbinate is $\geq$ 5mm, and the middle nasal tract with physiological curvature should be widened. If the patients with chronic hypertrophic rhinitis have severe middle turbinate reflexes and vesicular middle turbinates, they can undergo middle turbinate plasty intervention. It is worth noting that during the surgery, it is necessary to ensure the symmetry of the physiological functions of both sides of the patient's nasal cavity to avoid the occurrence of compensatory hypertrophy caused by asymmetric expansion.

4. Summary

In summary, the application of endoscopic nasal dilatation in the treatment of patients with chronic hypertrophic rhinitis can achieve better results, which can better improve the nasal congestion symptoms of patients, reduce their nasal resistance, and improve the prognosis of patients with chronic hypertrophic rhinitis. The application value is high, and it is worth promoting and applying.

References

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