Common laryngopharyngeal reflux

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**Abstract**

Clinically, the reflux of gastric acid into the esophagus is called gastroesophageal reflux disease (GERD), while the reflux of gastric acid into the throat or pharynx is called laryngopharyngeal reflux disease (LPRD). The reflux beyond the esophagus causes throat tissue damage; in other words, it is a relatively serious disease, usually for patients with laryngeal reflux, the past literature recommends that the dose and duration of PPI use are longer than those of general gastroesophageal reflux, and the dosage of drugs also needs to be higher. Large, if the gastric acid reaches the pharynx and larynx, it will cause damage to the throat and vocal cords. Compared with gastroesophageal reflux, patients with laryngopharyngeal reflux can feel the symptoms of pharyngeal reflux just by sitting. For patients with esophageal reflux disease, the symptoms are only aggravated when lying down. The stomach contents, such as pepsin and gastric acid, can cause the most damage to the throat, while bile salts can aggravate the damage to the throat. High-risk groups include obesity and sleep apnea patients. Obesity can change the shape and function of the junction between the stomach and the esophagus, leading to a decrease in the pressure of the Lower esophageal sphincter, increasing gastric acid reflux and exposure. In addition, abnormal changes in the sensitivity of the throat nerves are also related. When the throat becomes extremely sensitive, symptoms even in the absence of acid stimulation. Although Laryngopharyngeal reflux and GERD are both related to stomach acid, there are still many symptoms that can explain that they are two different diseases. Common symptoms of Laryngopharyngeal reflux include hoarseness (71%), chronic Cough (51%), foreign body sensation in the throat (47%), repeated throat clearing (42%), mild dysphagia (35%), etc.

**Keywords**: Laryngopharyngeal reflux; dental caries, gastroesophageal reflux, cough, medication.

**Introduction**

Laryngopharyngeal reflux often mimics symptoms of upper respiratory conditions such as nasal discharge, chronic allergic rhinitis, or sinusitis. 11 possible symptoms of reflux, such as: 1.Hoarseness, 2.Sore throat, 3.Foreign body sensation in the throat, 4. Increased throat secretions, 5.Nasal backflow, 6.Difficulty swallowing, 7.Chronic cough , 8.Habitual throat clearing, 9.Difficulty breathing, 10.Bad breath, 11.Chest pain, 12.Burning chest or feeling of suffocation, etc. [1-3]. Before diagnosing throat reflux, the following conditions also need to be ruled out: 1.Nasal backflow, 2.Chronic rhinitis (allergic/non-allergic), 3.Upper respiratory tract infection, 4.Habitual throat clearing, 5.Excessive smoking and alcohol Use, 6.Overuse of the voice, 7.Caused by temperature and weather changes, 8.Environmental stimuli, etc. [4,5]. A large number of research reports have been published one after another. Many problems that have nothing to do with the gastrointestinal tract, such as: dry throat, hoarseness, foreign body sensation when swallowing, sleep snoring, chronic cough; even otitis media, tinnitus, sinusitis, periodontal disease, tooth decay, etc. Diseases of the upper aerodigestive tract are more or less partially attributed to acid reflux [6].

**Clinical Diagnosis of Laryngopharyngeal Reflux**

Acid reflux is usually due to acidic substances, including, in addition to hydrochloric acid, enzymes (particularly pepsin), food residues, bile acids, and bacteria. Reflux episodes may also involve liquid gastric contents, especially in the lower esophagus. Laryngopharyngeal reflux has been suggested to be mainly gaseous fine aerosols. Temporary relaxation of the lower esophageal sphincter may also induce this situation. Once the aerosols reach the larynx, the pharynx is easily accessible to the nasal cavity, nasopharynx and lower respiratory tract. Diagnosis of Laryngopharyngeal Reflux Syndrome is based on clinical symptoms and endoscopic examination in most patients, supplemented by pH monitor of the digestive tract [7]. The commonly used scale is the acid reflux symptom index (Reflux Symptom Index, RSI), the following 9 symptoms are scored according to the severity: each symptom is divided into 0-5 points, 0 points - no such problem; 5 points - this problem very serious. If the RSI score is greater than 13, it means that there is a higher probability of suffering from laryngopharyngeal reflux disease, and if it is less than 10, it is not like laryngopharyngeal reflux (0=no symptoms, 5=severe symptoms) [8]; Laryngopharyngeal acid reflux symptom index symptoms As follows: 1.Hoarseness or other voice problems (0-5 points), 2.Frequent throat clearing (0-5 points), 3.Thick throat or nasal discharge (0-5 points), 4.Difficulty swallowing ( food, liquid, pill) (0-5 points), 5.Coughing after eating or lying down (0-5 points), 6.Difficulty breathing or choking (0-5 points), 7.Annoying cough (0-5 points) 0-5 points), 8.feel something stuck in the throat or foreign body sensation (0-5 points), 9.chest burning, pain, acid reflux (0-5 points) [8-9]; The latest progress in the diagnosis of laryngopharyngeal reflux. In recent years, the international consensus on the standard diagnosis of gastroesophageal reflux has been introduced. PH test), etc., and flexible or rigid laryngoscope can be used to check the laryngopharynx in the outpatient department of otolaryngology.

**Throat (acid) reflux treatment**

Physicians usually recommend treatment methods for patients with reflux, such as: lifestyle adjustments, drugs and surgery, by adjusting daily habits (such as diet) to improve the discomfort of reflux. Lifestyle changes are considered to be the first line of treatment. The side effects are also minimal, and patients should be advised to lose weight, quit smoking, reduce alcohol intake, adjust eating habits, raise the head of the bed when sleeping, reduce coffee consumption, avoid carbonated drinks, lose weight, reduce intake of high-fat foods, and raise the head of the bed when sleeping , Avoid lying down and exercising regularly within three hours after a meal [10]. If the symptoms have not been significantly improved, drugs will be used for further treatment for the patient. The following drugs are commonly used in the treatment of throat reflux: Proton pump inhibitor (PPI) is currently used to treat throat reflux One of the drugs [11] can inhibit gastric acid secretion. In the past, it was used to treat gastric ulcer and gastroesophageal reflux, but long-term use is not recommended. When patients with pharyngeal reflux are still ineffective after using PPI drugs, clinicians can also use neuromodulators: traditional tricyclic antidepressants (TCA), gabapentin, pregabalin and other drugs, which can be used as antacids are not effective second-line drug [12]. Such as antidepressant drugs or anti-anxiety drugs: 1. Selective serotonin recycle inhibitor (SSRI), 2. Serotonin and norepinephrine recycle inhibitor (SNRI), 3. Promote release of norepinephrine and serotonin (NaSSA), 4. norepinephrine and dopamine recovery inhibitor (NDRI), 5. serotonin antagonist & serotonin recovery inhibitor (SARI), but in recent years it has been clinically believed that abnormal nerve sensitivity of the throat may also cause Throat discomfort, so some drugs used to reduce nerve sensitivity such as: tricyclic antidepressants (tricyclic Antidepressants, TCA) can also be used, but it is recommended to use three times after diet restriction, lifestyle adjustment, and gastric acid reduction therapy are ineffective. Cyclic antidepressants [12-13]. Neuromodulator (Neuromodulator) is ineffective for PPI treatment. For patients with persistent symptoms of non-acid or a small amount of acid reflux, the use of reflux-reducing agent (Reflux-reducing agent) or visceral pain modulator (Visceral pain modulator) may be effective. In recent years, there have been different opinions on the safety of PPIs. More and more papers report that long-term use (more than 1 year) or abuse (not used for gastric ulcer, reflux esophagitis, esophageal cancer, etc.) Increase the risk of severe kidney disease, dementia, community pneumonia, osteoporosis and fractures, hypomagnesemia, and cardiovascular disease; therefore, the US Food and Drug Administration (FDA) clearly stipulates that people should not use PPIs without a doctor's diagnosis More than 4 weeks is recommended.

**Life style modification and medication**

At the beginning, it is recommended to limit the spicy or irritating diet and adjust the living habits. If the symptoms still do not improve, then further use of drug treatment. The consensus of doctors is that the patient's symptoms plus endoscopy should be used as a diagnostic method, in other words , If the patient has obvious and typical throat symptoms, and abnormal throat is seen under the otolaryngology endoscope, it will be suspected of throat reflux [15]. It is also worth mentioning that some doctors use drug reactions to diagnose throat reflux, because throat reflux is likely to be related to gastric acid, so when the patient uses a proton pump inhibitor (PPI, proton pump inhibitor), the throat symptoms have improved significantly. Then there is more evidence that the patient has a problem with laryngopharyngeal reflux [16]. Laparoscopic antireflux surgery (LARS) is considered to be a surgery that may be helpful to some patients. Surgery can stop antacid therapy, restore esophagitis, stop or reverse the mucosal dysplasia caused by frequent gastric acid reflux and metaplasia [16]. The latest developments in the treatment of laryngopharyngeal reflux. Physicians usually advise patients to improve Laryngopharyngeal Reflux by adjusting diet and lifestyle. If the symptoms have not improved, drugs will be used. Commonly used drugs for the treatment of laryngopharyngeal reflux include: 1.Alginate : Alginate can be used as a physical barrier for stomach and 12-denal contents, preventing stomach acid from flowing up to the esophagus, relieving discomfort caused by throat reflux, and the drug effect can last for 4 hours with less side effects. 2.Proton pump inhibitors (Proton pump inhibitors, PPI): hydrogen ion pump inhibitors are currently one of the main drugs used to treat throat reflux, which can inhibit gastric acid secretion and prevent the symptoms of throat reflux from aggravating. 3.Neuromodulator: such as Reflux-reducing agent or visceral pain modulator. If the above drugs are ineffective for patients with laryngopharyngeal reflux, the laryngologist will consider discussing the feasibility of laparoscopic reflux surgery with the patient. Fundoplication is usually used to improve the muscle relaxation of the gastroesophageal junction. In the past most of the surgery requires abdominal surgery. At present, laparoscopic surgery is the mainstream. During the operation, the patient only needs to be under general anesthesia and five small holes are made in the abdomen to reconstruct the lower esophageal sphincter. The operation time is about 2-4 hours. The success rate of the operation is almost 100%, and the complications of the operation are about 3%. Patients with severe laryngopharyngeal reflux can be cured by surgery.

**Conclusion**

Supplementing testosterone and adjusting daily life can help the elderly of low testosterone with or without obesity, particularly in the following areas: 1.Loss of muscle mass and hip BMD due to weight loss; 2.Improved aerobic capacity (increase peak oxygen consumption, VO2 peak), as an important indicator of the elderly to maintain independent lifestyle; and 3.Improved sexual function such as erection, orgasm, libido and sexual intercourse for more satisfaction with life; and 4. Restoration to normal testosterone level. Common symptoms of hypotestosterone syndrome include easy fatigue, decreased bone density, emotional instability, decreased activity and motor function, decreased muscle mass, decreased libido, sexual dysfunction, infertility, etc., but at a gradual pace of progression. The possible diseases and symptoms of low serum testosterone include obesity in 52% of reported cases (BMI > 30 kg/m2), type 2 diabetes, long-term use of analgesic opioids in 53% of reported cases (74% with long-acting regimen), osteoporotic fractures and rapid weight loss. Clinically, if a male experiences sexual dysfunction and given the age as a sign of possible menopause, it is recommended to test the serum testosterone concentration to rule out hypotestosterone syndrome.

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