Preoperative Evaluation of the Nasal Airway

Patients consulting with a surgeon for aesthetic enhancement of their nose also frequently report breathing difficulties and request that this problem be treated at the same time as their cosmetic surgery. The key to accurate evaluation of the nasal airway is a detailed assessment of the patient’s medical history and a precise physical examination.

Documentation should include previous facial trauma, surgical history, current medications, allergies (seasonal and medical), and smoking habits. Assessment of the patient’s current complaints may also include questions related to general difficulties in breathing through the nose, breathing problems during sports activities, sleep apnea, and snoring. A positive response is usually indicative of nasal airway disturbance.

The patient’s history can assist the diagnosis in several ways. Structural deformity is more probable if chronic symptoms have been present since childhood or had their onset after facial trauma. If the history indicates adult onset of symptoms, then the cause is more likely a mucosal problem (allergies or smoking).

Physical examination is performed by use of a light source and nasal speculum. A head light or mirror increases the field of view more than an otoscope or penlight. Watch the patient breathe, observing any laxity or collapse in the upper lateral cartilage or external nares. This observation may reveal partial obstruction in patients who have lost intrinsic support of the nasal valve. The cause may be congenital or iatrogenic. The speculum is used to open the anterior meatus in a superior-inferior manner with a vertical motion (never horizontal). Use a cotton swab, held in the free hand, to assess the position, size, and shape of the turbinates and to assess bony versus mucosal hypertrophy.

A vasoconstrictor should then be introduced into the nasal passage. Phenylephrine 0.25% is most effective for this purpose. The nasal mucosa is once again examined for changes in the position, shape, and size of the turbinates. If marked shrinkage of the turbinates is present and the patient reports improved breathing through the nasal airway, the most likely cause of the obstruction is swollen turbinates. In some of these patients the use of Flonase® (fluticasone propionate nasal spray 0.025%, Glaxo-Wellcome, Inc., Research Triangle Park, NC), in conjunction with oral decongestants (pseudoephedrine), will provide relief. More severe cases, refractory to the use of topical and oral agents, may require electrocautery or surgical intervention to resect the hypertrophied mucosa.

A key point in the use of vasoconstriction is that, once the mucosal swelling has decreased, the true bony or septal obstruction may be revealed. This may include the septum itself, the vomerine or maxillary crest, or turbinated bony hypertrophy. Patients who have a true functional obstruction of this type can anticipate functional airway improvement from surgical correction.

After vasoconstriction, if there is no noticeable change in the lining or in the size or shape of the turbinates, either the patient is refractory to the vasoconstriction or an underlying enlarged turbinate bone is obstructing airflow. In these patients, excision of a portion of the turbinate bone is helpful. A partial turbinectomy that conserves mucosa may be performed with minimal postoperative complications.

A physician will occasionally encounter a patient whose airway appearance is markedly improved after vasoconstriction; however, subjectively the patient still reports airway obstruction. This type of patient may be psychologically fixated on nasal obstruction and thus impossible to treat medically.

A thorough and systematic medical history and physical examination will assist the physician in educating the patient, clarifying expectations, and focusing on the diagnosis and treatment recommendation. These steps will aid in bringing the physician and patient to a mutual understanding of the appropriate treatment modality that will provide relief to the patient with a legitimate complaint and avoid ineffective treatment of the patient with unrealistic expectations.