diagnostic and therapeutic capability of the chest physician. New bronchoscopy applications and "new" diseases are continually appearing. Lack of confidence in the interpretation of clinical data, ambiguous radiographic reports, and the widespread availability and low morbidity of fiberoptic bronchoscopy can encourage its overuse. Predictors of diagnostic yield can assist physicians to apply technology judiciously to help their patients, by potentially lowering costs without compromising patient care.

The experience of Feinsilver and colleagues reminds us of several traditional principles: 1) initial diagnostic impressions are often changed through additional historic information, 2) clinical vigilance for alternative diagnoses is warranted with community-acquired pneumonia, and 3) when alternative conditions exist, bronchoscopy may prove diagnostic. Determining the frequency of community-acquired pneumonia mimics among patients with community-acquired pneumonia would be interesting. Prospective validation of clinical and radiographic criteria of Feinsilver et al is desirable. Sound clinical judgment remains the determinant of the optimal use of fiberoptic bronchoscopy. We know bronchoscopy is frequently helpful, but we need more studies to determine exactly for whom it counts most.

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The opinion expressed within is solely that of the author and does not reflect that of the Department of Defense, the Naval Medical Department, or the Naval service.

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REFERENCES

1 Fein AM, Feinsilver SH, Niederman MS, Fiel S, Pai PB. When the pneumonia doesn't get better? Clin Chest Med 1987; 8:529-41

Surgical Treatment of Obstructive Sleep Apnea
Is Mandibular Surgery an Advance?

Nasal continuous positive airway pressure (CPAP) has become the treatment of choice for obstructive sleep apnea (OSA), particularly in patients with severe daytime sleepiness and significant cardiopulmonary sequelae of the disorder. Retrospective analysis of mortality in OSA suggests that only tracheostomy and nasal CPAP change the natural history of the disorder, whereas uvulopalatopharyngoplasty (UPPP) does not change mortality rates when compared to untreated patients. UPPP has been shown to be very effective in eliminating snoring, but several reviews have shown that objective documentation of complete resolution of OSA by polysomnography is uncommon with this procedure. Several groups have postulated that UPPP failure is due to the fact that the site of upper airway occlusion is not always limited to the oropharynx, and in some patients, obstruction may occur at multiple sites. Preoperative localization of the site of obstruction has been attempted with a variety of techniques, including fiberoptic nasopharyngoscopy, somn fluoroscopy, CT scanning, and cephalometric x-rays with variable degrees of success in predicting the outcome of UPPP.

In this issue of Chest (see page 1421) Riley et al discuss a preoperative approach that includes fiberoptic pharyngoscopy and lateral cephalometric x-ray examination to stratify patients according to the predominant site of obstruction. In patients with hypopharyngeal obstruction, surgical advancement of the facial skeleton and hyoid bone is performed in an attempt to expand the airway. In patients with obstruction at both the oropharyngeal and hypopharyngeal levels, mandibular maxillary and hyoid advancement was preceded by UPPP to eliminate oropharyngeal obstruction. In this report, 30 consecutive patients who were unable to continue nasal CPAP were treated with this type of evaluation and surgical protocol. Mean improvements in sleep-disordered breathing and sleep architecture after maxillofacial surgery were equal to those found after nasal CPAP. Individual patient data reveal that respiratory disordered breathing index or number of disordered breathing episodes per hour of sleep was reduced to less than 20 in all patients. Daytime sleepiness and heavy snoring were also eliminated.

The excellent results reported, however, were the product of a long, step-wise, progressively aggressive surgical approach including relief of nasal obstruction, UPPP, mandibular osteotomy and hyoid resuspension, inferior sagittal mandibular osteotomy and bimaxillary advancement. A three- to six-month interval
between stages of the surgery was used to assess success or failure so as to avoid unnecessary surgery. If maxillary, mandibular and hyoid advancement was required, postoperative morbidity was described as very low. Although hospitalization averaged only 2.4 days, jaw fixation for two to three weeks and orthodontic work to correct malocclusion secondary to surgery was necessary in all patients. A description of this approach to patients might serve to increase compliance with nasal CPAP! Despite its apparent aggressiveness, maxillofacial surgery was quite successful in this study. Surgical success in individual patients was also defined more rigorously than in past reports of UPPP by both subjective and objective polygraphic criteria. This success may be due in part to the experience of the surgical group involved. Therefore, confirmatory results on effectiveness and long-term sequelae of this approach from a multicenter trial would be quite helpful in determining the usefulness of these techniques in the significant number of sleep apnea patients who cannot continue with nasal CPAP therapy.

How should patients who cannot use nasal CPAP be approached? A careful investigation into the causes of intolerance of nasal CPAP should be undertaken. Humidification, aggressive medical therapy of nasal dryness or congestion, rechecking of CPAP pressure and mask fit, and home monitoring of pressure level to assess effective CPAP therapy should all be attempted. If other conservative therapy such as weight loss and body position modification are also unsuccessful, surgical evaluation would be appropriate for the type of symptomatic patient with a high disordered breathing rate and significant baseline level of nocturnal desaturation, as in the consecutive group of patients noncompliant with CPAP described in this study. Sometimes nasal surgery alone may make CPAP more tolerable even if it does not improve the sleep-disordered breathing significantly. Rather than proceeding directly to UPPP, it would seem logical to try to localize the predominant site of obstruction using nasopharyngoscopy and cephalometric x-ray examination as relatively inexpensive and apparently effective preoperative staging techniques. UPPP should be reserved for those patients with isolated oropharyngeal obstruction. The nonobese, significantly retrognathic patient, unlikely to benefit from UPPP, seems to be a good candidate for mandibular advancement. As more centers become experienced with these techniques, more patients with multiple levels of airway obstruction during sleep may be candidates for the sequential surgical approach using UPPP and mandibular, maxillary and hyoid advancement outlined in this report, if they cannot continue on nasal CPAP.

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REFERENCES