Usefulness of Elbow Sign for Screening OSA Only

To the Editor:

I read with interest the article on the utility of the elbow sign in the diagnosis of OSA by Fenton et al1 in a recent issue of CHEST (March 2014). The authors infer that the elbow sign could be used as an alternative to polysomnography (PSG) to establish the diagnosis of OSA. I disagree. It is analogous to treat a patient who complains of palpitation with ablation therapy for supposed atrial fibrillation. Although cost control is the goal, it may increase the cost to the health-care system. Many people without sleep apnea may start using it, but inadequate treatment of many patients may cause a delay in definitive treatment.

As Fenton et al1 mention, untreated sleep apnea is associated with hypertension, cardiovascular disease, increased number of motor vehicle accidents, increased health-care costs, and decreased productivity in the workplace.2 Sleep apnea is not a homogeneous disorder. The treatment is not autotitrating positive airway pressure for everyone. That is oversimplification. What happens when the patient has central sleep apnea, and how do we know that the patient does not have it? Should we wait until the condition worsens and leads to the medical consequences of inadequate therapy?

The empirical CPAP trial for suspected OSA reported earlier actually showed that 40% of those patients were treated with suboptimal pressures. Eventually, they all had a PSG/CPAP titration sleep study.3

There are significant wait times in many places in Canada, as the authors point out. That can be managed with judicious use of home sleep testing4 rather than with using the elbow sign to replace PSG. That is actually doing a disservice to our patients. The elbow sign could be useful in the screening of the patients but not as a diagnostic test.

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References

Response

To the Editor:

We thank Dr Hunasikatti for his interest in our recent article1 and his comments. The study was designed to evaluate whether the elbow sign can improve the pretest probability of OSA, and it clearly does. We are not advocating that, based on our single-center study, broad application of the elbow sign as an alternative to polysomnography (PSG) or other testing be implemented. Rather, we were merely pointing out the excellent operating characteristics of this simple clinical sign in obese men and its ability to improve pretest prediction in patients with lower pretest probabilities. The idea of it replacing PSG is intriguing and would need to be studied in a clinical trial with appropriate patient selection before being considered. As Dr Hunasikatti states, cost control is an important issue; however, we would also point out the benefit to an individual patient to avoid the inconvenience of a test. As in all areas of medicine, a PSG or level 3 test...
should be used to buttress the clinical impression of the physician. One could argue that there is little improvement to be made beyond a specificity of 97%. Tests should not be done just for the sake of doing them.

We are very well aware that sleep apnea is not a homogeneous disorder and have not advocated for autotitrating CPAP (autoCPAP) for everyone, as Dr Hunasikatti states. Additionally, we suggest that comparison with atrioventricular nodal ablation, an invasive procedure with the potential for arrhythmia and other serious morbidities, misses the mark, as CPAP is a fairly benign therapy with no serious side effects.

The possibility of central sleep apnea (CSA) in any patient being prescribed autoCPAP is a concern. In our center, for patients with clinical conditions predisposing to CSA (eg, heart failure), autoCPAP is routinely avoided in favor of PSG. Occasionally, patients without significant comorbidities who are diagnosed with OSA by PSG or level 3 test and prescribed autoCPAP experience CSA on treatment related to high loop gain. Identification of such patients prior to starting CPAP is currently impossible, regardless of the diagnostic test used. Hence, we would argue that such a patient receiving a diagnosis of OSA by the elbow sign and prescribed autoCPAP would be identified by the high residual apnea-hypopnea index and referred for a more definitive assessment of CSA by PSG. Furthermore, one could argue that such an algorithm would save patients time and inconvenience and reduce costs to the system by reserving PSG for such selected cases.

In summary, the elbow sign is a clinical tool that significantly improves the pretest prediction of OSA. However, it has not been validated as an alternative to PSG in the diagnosis of this disorder.

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