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REFERENCE


FEV₁/FVC Fixed Ratio Again!

To the Editor:

I read with great interest in a recent issue of CHEST (November 2010) the Point/Counterpoint Editorials2,3 on the FEV₁/FVC fixed ratio of <0.7 to detect airflow limitation and exclusion. Although I was satisfied with the pro arguments of Drs Celli and Halbert,1 I found no real evidence on the con side compared with a similar debate I had on the same issue a few years ago.1,2,3 I still do not understand why Drs Enright and Brusasco4 criticized only the GOLD (Global Initiative for Obstructive Lung Disease) initiative5 for the choice of the fixed ratio, as the fixed ratio is recommended by all national and COPD guidelines, including the most recent National Institute for Health and Clinical Excellence 2010 COPD guidelines that extensively discuss the same issue and confirm its choice of the FEV₁/FVC fixed ratio of <0.7.5

In addition to the many good reasons proposed by Drs Celli and Halbert, I believe that the main reason for recommending the fixed ratio at the time of developing the GOLD initiative6 was, and still is, that recommendations should be based on evidence, and the fixed ratio has been used as a diagnostic and an inclusion criterion in almost all randomized controlled trials (RCTs) conducted in patients COPD. These RCTs provide the evidence to make and grade treatment recommendations for patients with COPD.6

Curiously, Drs Enright and Brusasco conducted and coauthored some of those RCTs using the fixed ratio. For example, the first large long-term RCT in COPD was the Lung Health Study,7,8 which indeed used the FEV₁/FVC ratio and was coordinated and coauthored by Dr Enright. Similarly, the GOLD criteria and the fixed ratio were used as inclusion criteria of patients with COPD in two recent large RCTs coordinated and coauthored by Dr Brusasco.9,10 Finally, no reference to percent predicted FEV₁/FVC was done, and only the absolute FEV₁/FVC was analyzed in a recent prestigious scientific publication on COPD also coauthored by Dr Enright.11

Because the two authors have made a crusade over the past several years against the fixed ratio and the GOLD initiative11 (by the way, an interesting example of self-plagiarism12), I believe that it would be helpful for readers to understand their rationale for not quoting their own studies and papers using the GOLD definitions and criteria in which they did not even care to use, mention, or analyze the lower limit of normal that they propose to replace the fixed ratio. The lower limit of normal was indeed used as an inclusion criterion in one large RCT without raising any reactions12; if we had more of these studies, we could certainly rediscuss the case. However, I have to say, “Those who cannot remember the past are condemned to repeat it.”16

REFERENCES


Abandoning FEV₁/FVC < 0.70 to Detect Airway Obstruction

An Essential Debate but With the Right Emphasis?

To the Editor:

In recent Point/Counterpoint Editorials in CHEST (November 2010), Drs Celli and Halbert¹ argue in favor of and Drs Enright and Brusasco² argue against using the fixed cutoff point for FEV₁/FVC < 0.70 to define airflow obstruction when diagnosing COPD. This is clearly an important debate, but we believe that the authors fail to address some essential points in their respective contributions.

They base their arguments mainly on issues related to other conditions (ie, hypertension), detection of obstruction in the general population, comparison of prevalence figures between countries, underdiagnosis of COPD, and population-level evidence regarding FEV₁/FVC decline with age.¹³ However, in our view, the debate about the preference for the 0.70 or an age- and sex-specific FEV₁/FVC cutoff should focus on the consequences of this choice when diagnosing individuals.

Primary care physicians (PCPs) are often the first health-care professionals that people will turn to when they experience respiratory symptoms. Thus, in many cases it will be the PCP who needs to decide whether the symptoms are caused by COPD or by one of the many other causes for the patient’s symptoms.² Availability of spirometry is indeed increasing in many countries, and PCPs will often need to interpret the spirometry results, even though they are not respiratory experts. By stating that “it is the evaluating physician who ultimately decides the medical significance of an abnormal value in a specific patient encounter,” Drs Celli and Halbert¹ do seem to recognize this, but at the same time they cast doubt on PCPs’ ability to judge the significance of an abnormal value for the FEV₁/FVC (“It can be easily understood by clinicians, lowering some of the barriers to spirometry.”).

The best thing we can do to support PCPs in deciding whether an FEV₁/FVC value is medically significant in a particular patient is to provide them with cutoff points that leave no indefiniteness about the role age, sex, and race have in the interpretation of the patient’s spirometry test. We have recently shown that using lower limit of normal (LLN) cutoffs instead of FEV₁/FVC < 0.70 substantially reduces the number of false-positive interpretations in primary care, especially in elderly subjects (Fig 1).²⁴ We agree with Drs Enright and Brusasco¹ that switching to LLN cutoffs does not need to be that complicated, as most electronic spirometers already incorporate LLN equations, and even if they do not, a simple table or graphical aid—which is no more difficult to read than growth charts for children—could solve this.

From a research point of view, the million-dollar question is whether a middle-aged or elderly subject who has an LLN < FEV₁/FVC < 0.70 when being evaluated for possible COPD actually shows abnormal progression of airflow obstruction or other clinical features that justify a COPD diagnosis. Currently, there is insufficient evidence to answer this question. We are very interested to learn the responses of the authors on these points.

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