LETTER TO THE EDITOR

Reply to: Brusse-Keizer MGJ, et al. Relation of sputum colour to bacterial load in acute exacerbations of COPD

The recent study by Bresse-Keizer et al.1 dismisses all of the work and opinion of other research groups with a single concluding line in the abstract. This conclusion is based on a small study of 22 patients admitted with an exacerbation and purulent sputum (although Figure 2 indicates some had mucoid sputum). 23% were on antibiotics which will potentially reduce the viable organism numbers, and 68% had antibiotics in the 4 weeks prior to admission, although it is not clear if this was for a purulent episode, whether it persisted or cleared temporarily. These are all critical factors in determining whether these were episodes of (a) new or increased purulence, (b) due to resistant bacteria or (c) patients treated with the wrong antibiotics. On admission we know nothing about the bacteria, their sensitivities, any antibiotic therapy and dose of corticosteroids, as it is referred to as "the hospital protocol". The patients had no change in bacterial load or sputum purulence during the admission. Load and purulence grade did not correlate, although load and MPO (the green protein) did, so it should be expected load and colour would also correlate. The range of purulence is not given and unless this covers a reasonable range a lack of correlation means little, especially with such small numbers. Nevertheless the presence of purulence and a significant bacterial load is consistent with all the theory and fact outlined by others.2,3 However, the lack of change in purulence or load suggests treatment did not include antibiotics or the choice and dose was incorrect. If the patients improved clinically it must reflect other symptoms and presumably other treatment or natural recovery. If so the patients were discharged with purulent sputum which may be their usual clinical state perhaps due to the presence of Bronchiectasis.4 Determining the presence of an infective exacerbation in such patients is more complex unless the purulent nature of the sputum has cleared.

Choosing antibiotics to manage exacerbations of COPD has been best addressed by the classical study of Anthonisen et al.5 who demonstrated that clinical benefit was only seen if all 3 major symptoms of increased breathlessness, new or increased sputum production and NEW OR INCREASED sputum purulence were present. Of these, NEW OR INCREASED purulence (reflecting a visible change in neutrophil recruitment) seems the most physiologically sensitive marker of a NEW OR INCREASED microbial load and has been incorporated into all recent COPD guidelines and this was the rationale for our previous study.6

We feel that the current study lacks sufficient clinical, microbiological, radiological and biochemical stringency in a highly selected small number of patients to make a conclusion that negates many years of careful scientific method, peer review and clinical observation by other groups. Finally, it should also be noted that although the 9 point chart is more scientific, in clinical practice a 5-point scale is easier for patient and doctor clinical decision making and shows rapid resolution with appropriate antibiotics.7

Conflict of interest

None declared.

References


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