

EDITORIAL

Understanding cough

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A recent meeting on antitussive strategies presented an opportunity to review current practice in the treatment of acute cough due to respiratory tract infection (RTI). Multiple factors contribute to the present lack of consensus as to the appropriate management of this common condition. Firstly, terminology is problematic, both in relation to how cough itself is described, and in the classification of therapeutic agents for cough. Secondly, firm opinions regarding the efficacy, or lack thereof, of these agents, are often held without the foundation of properly executed clinical trials.

Traditionally cough is classified as either productive, *i.e.* producing mucus, usually with expectoration, or nonproductive (dry). However, studies which have elicited patients' subjective descriptions of their symptoms during a RTI have revealed a commonly-described entity that being a productive cough of scant or no mucus, but associated with significant chest discomfort, including chest tightness and pain. Such a cough is often referred to as a "chesty" cough. Thus, the paradigm of cough in RTI may not reflect the clinical picture.

Similarly, the optimal therapeutic strategy for this common condition remains undetermined. This may at least partly be due to misconceptions as to which pathological process is affected by currently available treatments. In most general terms, medications used to treat cough are usually categorized as antitussive, *i.e.* decreasing the sensitivity of the cough reflex, or protussive, *i.e.* enhancing the efficiency of cough. Some clinicians continue to embrace the idea that antitussive therapy should be avoided in cough due to RTI for fear that excessive respiratory secretions may accumulate within the airways. Whilst this concern may be appropriate in those patients with pre-existing chronic lung disease whose cough is associated with copious sputum production, *i.e.* bronchiectasis, and cystic fibrosis, acute cough due to RTI is rarely associated with significant mucus production. Therefore, the use of an effective antitussive agent such as

dextromethorphan [1, 2] or codeine [3] to suppress the debilitating cough suffered by such patients seems appropriate.

Historically, protussive therapy has been used in situations in which mobilization of secretions is desired. Protussive agents are further subcategorized as expectorants, mucolytics, and mucokinetic agents. Unfortunately, very few properly performed clinical trials have studied the efficacy of these agents in acute RTI, and most of those studies are hard to evaluate [4, 5]. Therefore, not surprisingly, the role of protussive therapy in treating "chesty" cough remains unclear. Given the relatively small amount of mucus usually associated with "chesty" cough, it might be argued that protussive therapy is unnecessary, or perhaps even illogical. Conversely, if the antitussive agent limits the frequency of cough while the protussive agent relieves the physical symptoms of chest discomfort perhaps by enhancing the effectiveness of cough, then the enormous current global use of combination therapy such as dextromethorphan and guaifenesin may have some logical basis. The intriguing concept that guaifenesin may be of benefit in acute cough by modulating the character of respiratory secretions, has recently been termed the "hydration hypothesis" [6]. Studies are currently underway that may elucidate whether this "holds water".

Given the tremendous health and socioeconomic impact of acute cough due to respiratory tract infections worldwide [7], careful re-evaluation of current thinking, as well as adequately performed clinical trials aimed at determining optimal management, are certainly warranted.

References

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