

Tiotropium Bromide

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Chronic obstructive pulmonary disease (COPD) is a major healthcare problem. It is among the leading causes of death and disability worldwide, and its impact will only rise in coming years. COPD is almost entirely caused by cigarette smoking, and therapeutic options are extremely limited.

Bronchodilator therapy is the key element of COPD management, as it is now acknowledged that most patients have a clinically useful reversible component to the airflow limitation. Ipratropium bromide, an inhaled anticholinergic bronchodilator, has proven extremely useful but must be taken four times a day.

Tiotropium has a prolonged duration of action and is the first inhaled bronchodilator demonstrated to be suitable for once-daily use; it seems

reasonable to suppose that patient compliance will be enhanced. Documented adverse effects are limited to dry mouth in 10 to 15% of patients, with this adverse effect only rarely severe enough to cause discontinuation of therapy.

A rather extensive series of pre-marketing large scale clinical trials has yielded a few pleasant surprises. Exercise tolerance is enhanced, likely mediated by reduction in hyperinflation. Health status measures have shown clinically significant improvements, and measures of dyspnoea have improved in patients receiving tiotropium. Evidence of reduced exacerbation rates, hospitalisations and hospital days has been presented. One-year trials have shown no evidence of tachyphylaxis and hint that disease progression, assessed as the rate of decline of forced expiratory volume in one second, may be blunted in patients receiving tiotropium. This agent will be a welcome addition to those treatments available for COPD. ▲