Inhaled Glycopyrronium Bromide Produces Significant Bronchodilation

In patients with moderately severe asthma

Glycopyrronium bromide [glycopyrrolate] is a quaternary ammonium anticholinergic drug that is poorly absorbed from mucous membranes, a property expected to minimise systemic adverse effects. A double-blind crossover study was conducted to assess glycopyrronium bromide in 20 patients with stable moderately severe asthma. They received single doses of inhaled glycopyrronium bromide 80, 240, 480 and 960μg and placebo in random order on 5 separate days.

Glycopyrronium bromide 240, 480 and 960μg produced significantly higher increases in FEV_1 than placebo for up to 12 hours after administration. Bronchodilation with the 480 and 960μg doses was similar and both were better than the 240μg dose. Four patients whose FEV_1 was < 50% of predicted did not respond to inhaled glycopyrronium bromide.

'In summary, metered-dose GA [glycopyrronium bromide] is a safe, effective, long-acting bronchodilator in the treatment of some patients with asthma' and ***'... the 480μg dose provided maximal bronchodilation without any significant side effects'.***

Schroeckenstein DC, Bush RK, Chervinsky P, Busse WW. Journal of Allergy and Clinical Immunology 82: 115-119, Jul 1988 :806