Retrospective study analysing whether effect of adding propranolol or increased inhaled corticosteroid dose in persistent asthma

P161 A randomised controlled trial of single combination budesonide/formoterol inhaler as maintenance and reliever therapy in asthma patients at risk of severe exacerbations

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Introduction The single budesonide/formoterol inhaler Maintenance And Reliever Therapy (SMART) regimen reduces severe asthma exacerbations, but it is uncertain whether it increases the risk of adverse effects due to high beta-agonist and corticosteroid doses with both short-term and cumulative exposure.

Objectives Our hypothesis was that treatment with the SMART regimen would reduce the risk of beta-agonist overuse but that when such episodes occurred, patients were less likely to seek medical review and, that any reduction in severe exacerbations would be at the cost of a higher systemic corticosteroid burden.

Methods This was a 24-week, open-label, parallel group trial in 303 asthma patients with a recent exacerbation, conducted at four primary healthcare practices and one secondary care hospital.

Participants were randomised to 200/6µg budesonide/formoterol metered dose inhaler according to the SMART regimen (two actuations twice daily maintenance with one extra actuation as-needed) or a fixed-dose regimen (two actuations twice daily maintenance) with one to two actuations of 100µg salbutamol as-needed (‘Standard’), with electronic monitoring of actual inhaler use. The primary outcome was the proportion of participants with at least one high beta-agonist use episode (>12 budesonide/formoterol actuations/day in SMART or >16 salbutamol actuations/day in Standard).

Results There was no significant difference between groups in the proportion of participants with at least one high use episode: SMART 84/151 (56%) vs Standard 68/152 (45%); relative risk (95% CI) 1.24 (0.99–1.56), p = 0.058. There were fewer days of high use [mean (SD) 5.1 days (14.3) vs 8.9 days (20.9), relative rate (RR) (95% CI) 0.58 (0.39–0.88), p = 0.01] and days of high use without medical review [8.5 days (17.8) vs 18.3 days (24.8)] per high use patient, RR 0.49 (0.31–0.75), p = 0.001 in the SMART group. The SMART regimen resulted in higher average daily inhaled corticosteroid exposure, but reduced oral corticosteroid exposure, with no difference in composite systemic corticosteroid exposure [ratio of means (95% CI) 1.03 (0.86–1.22), p = 0.76]. SMART participants had fewer severe asthma exacerbations [35 vs 66, RR 0.54 (0.36–0.82), p = 0.004].

Conclusions The SMART regimen has a favourable risk/benefit profile in patients at risk of severe asthma exacerbations.

Clinical trials in asthma

P162 Effect of adding propranolol or increased inhaled corticosteroid dose in persistent asthma

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Introduction Adding propranolol to a high-dose inhaled corticosteroid (ICS) regimen in adults with moderate to severe asthma can reduce exacerbations, but may increase risk of infection.

Methods This was a 12-month, randomised controlled trial in 443 adults with moderate to severe asthma, comparing: (i) high-dose ICS alone (placebo propranolol); (ii) high-dose ICS plus propranolol (0.8 mg or 1.6 mg daily). Participants were followed up at months 6 and 12.

Results There was no significant difference between groups in the proportion of participants with at least one high beta-agonist use episode (>12 budesonide/formoterol actuations/day in SMART or >16 salbutamol actuations/day in Standard).

Results There was no significant difference between groups in the proportion of exacerbations: SMART 58/151 (38%) vs Standard 68/152 (45%); relative risk (95% CI) 0.84 (0.63–1.13), p = 0.27. There were fewer days of exacerbations [mean (SD) 5.1 days (14.3) vs 8.9 days (20.9), relative rate (RR) (95% CI) 0.73 (0.59–0.91), p = 0.004] and days of exacerbations without medical review [8.5 days (17.8) vs 18.3 days (24.8)] per exacerbation patient, RR 0.49 (0.31–0.75), p = 0.001 in the SMART group. The SMART regimen resulted in higher average daily inhaled corticosteroid exposure, but reduced oral corticosteroid exposure, with no difference in composite systemic corticosteroid exposure [ratio of means (95% CI) 1.03 (0.86–1.22), p = 0.76]. SMART participants had fewer severe asthma exacerbations [35 vs 66, RR 0.54 (0.36–0.82), p = 0.004].

Conclusions The SMART regimen has a favourable risk/benefit profile in patients at risk of severe asthma exacerbations.