EFFECT OF INHALED CORTICOSTEROID (ICS) PARTICLE SIZE ON ASTHMA EFFICACY AND SAFETY OUTCOMES: A SYSTEMATIC LITERATURE REVIEW

Methods English language published peer-reviewed literature (Jan 1, 1998-Feb 13, 2014) with FP-containing medications, yielded 1,655 potentially-relevant articles: 1,575 were excluded, 80 full-text articles were reviewed, and 25 were extracted for data with treatment comparisons (FP- vs. small particle ICS-containing medicines). Efficacy measures included lung function, asthma exacerbations, and rescue medication use. Safety endpoints included adverse events, growth and bone measures, and cortisol. Benefit-risk interval plots of risk differences with 95% confidence intervals were produced for FP vs. comparators.

Results Ten controlled trials compared the efficacy of FP with beclomethasone dipropionate (BDP-HFA). Six studies found no appreciable differences in efficacy while four trials identified improvement in lung function with FP vs. BDP-HFA. In ten randomised trials comparing the efficacy of ciclesonide (CIC) with FP, CIC was found to be non-inferior or not statistically different from FP on numerous efficacy endpoints in the majority of the studies. Most safety assessments across nine trials did not differ between treatments. Results were similar for fixed dose combination therapies that contained FP and BDP-HFA (n = 3 trials).

Conclusions This systematic review suggests no differences in efficacy or safety between FP-containing medications and alternative smaller particle ICS medications for the treatment of asthma.