Cochrane Database of Systematic Reviews - - Cochrane Review

Sodium channel blockers for cystic fibrosis

Code: CD005087 **Year:** 2014 **Date:** 2012 - updated: 3 APR 2014 **Author:** Burrows Elinor F

Study design (if review, criteria of inclusion for studies)

Published or unpublished randomised controlled trials (RCTs) or quasi-randomised controlled trials of sodium channel blockers compared to placebo or another sodium channel blocker or the same sodium channel blocker at a different dosing regimen.

List of included studies (5)

Bowler 1995; Donaldson 2006; Graham 1993; Knowles 1991; Pons 2000

Participants

Participants with a diagnosis of CF, based on a positive sweat test, or the presence of two disease-causing mutations on molecular genetic analysis.

Interventions

Amiloride; HS with amiloride pre-treatment

Outcome measures

Difference in relative change in FVC at six months; FEV1 (percent predicted); FVC (percent predicted); Mean difference in FEF25-75; Mean difference in FEV1; Mean difference in FVC; Mucus clearance (24 hour); Relative change in FEV1 from baseline; Relative change in FVC from baseline; Time to peak FVC

Main results

Five RCTs, with a total of 226 participants, examining the topical administration of the short-acting sodium channel blocker, amiloride, compared to placebo were identified as eligible for inclusion in the review. In three studies over six months, there was a significant difference found in the difference in relative change in FVC in favour of placebo (weighted mean difference -1.51% (95% confidence interval -2.77 to -0.25), although heterogeneity was evident. A two-week study demonstrated that hypertonic saline with amiloride pre-treatment did not result in a significant improvement in respiratory function or mucus clearance, in contrast to pre-treatment with placebo. There were no significant differences identified in other clinically relevant outcomes.

Authors' conclusions

We found no evidence that the topical administration of a short-acting sodium channel blocker improves respiratory condition in people with cystic fibrosis and some limited evidence of deterioration in lung function.

http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD005087.pub4/abstract

See also

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Keywords

pharmacological_intervention; ENaC antagonists - Sodium Channel Blockers; Amiloride; Respiratory System Agents;