Cochrane Database of Systematic Reviews - - Cochrane Review

Drug therapies for reducing gastric acidity in people with cystic fibrosis

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

All randomised and quasi-randomised trials involving agents that reduce gastric acidity compared to placebo or a comparator treatment.

List of included studies (17)

Bowler 1993; Boyle 1980; Carroccio 1992; Chalmers 1985; Chung 2000; DiMango 2012; Durie 1980; Francisco 2002; Heijerman 1990; Heijerman 1991; Heijerman 1993; Lubin 1979; Proesmans 2003; Robinson 1988; Robinson 1990; Schoni 1984; Weber 1981

Participants

Children and adults with defined CF, diagnosed clinically and by sweat or gene testing including all ages and all degrees of severity.

Interventions

Drug therapies for reducing gastric acidity

Outcome measures

Primary outcomes: Measures of nutritional status as assessed by weight, height and other indices of growth; Symptoms related to increased gastric acidity such as epigastric pain, heartburn; Complications of increased gastric acidity such as gastric or duodenal ulcers. Secondary outcomes: Faecal fat, faecal nitrogen excretion and other measures of fat malabsorption; Measures of lung function; Measures of quality of life; Mortality; Any adverse effects reported

Main results

The searches identified 40 trials; 17 of these, with 273 participants, were suitable for inclusion, but the number of trials assessing each of the different agents was small. Seven trials were limited to children and four trials enrolled only adults. Metaâ€•analysis was not performed, 14 trials were of a crossâ€•over design and we did not have the appropriate information to conduct comprehensive metaâ€•analyses. All the trials were run in single centres and duration ranged from five days to six months. The included trials were generally not reported adequately enough to allow judgements on risk of bias. However, one trial found that drug therapies that reduce gastric acidity improved gastroâ€•intestinal symptoms such as abdominal pain; seven trials reported significant improvement in measures of fat malabsorption; and two trials reported no significant improvement in nutritional status. Only one trial reported measures of respiratory function and one trial reported an adverse effect with prostaglandin E2 analogue misoprostol. No trials have been identified assessing the effectiveness of these agents in improving quality of life, the complications of increased gastric acidity, or survival.

Authors' conclusions

Trials have shown limited evidence that agents that reduce gastric acidity are associated with improvement in gastroâ€•intestinal symptoms and fat absorption. Currently, there is insufficient evidence to indicate whether there is an improvement in nutritional status, lung function, quality of life, or survival. Furthermore, due to the unclear risks of bias in the included trials, we are unable to make firm conclusions based on the evidence reported therein. We therefore recommend that large, multicentre, randomised controlled clinical trials are undertaken to evaluate these interventions.

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See also

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Keywords

Antacids; Gastrointestinal Agents; Histamine H2 Antagonists; pharmacological_intervention; Malabsorption; Nutrition Disorders;