primary studies - published RCT

Effect of cimetidine and sodium bicarbonate on pancreatic replacement therapy in cystic fibrosis.

Code: PM7429342 **Year:** 1980 **Date:** 1980 **Author:** Durie PR

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

randomized trial

Participants

15 patients with cystic fibrosis and pancreatic insufficiency

Interventions

four randomised seven day treatment periods in which they received only pancreatic supplement (Pancrelipase, 27 capsules per day) or supplement plus cimetidine (20 mg/kg body weight/24 h) or sodium bicarbonate (15 g/m2/24 h) alone or in combination. Dietary intake was not fixed but was restricted to foods of known fat and nitrogen content from which daily intakes could be computed.

Outcome measures

Faecal fat and nitrogen were calculated as g/24 h and percentage of intake.

Main results

Addition of either cimetidine or bicarbonate resulted in significant improvement in fat and nitrogen excretion, which was not greater with the combination of both drugs. Cimetidine and sodium bicarbonate in these doses are therefore sufficient to produce maximal improvement in digestive activity of pancreatic supplements. Fat excretion per gram of intake fell with cimetidine and bicarbonate from 12 times the normal level, to normal, in patients consuming less than 120 g fat daily. Above this intake the dose of pancreatic supplement appeared to be inadequate. Faecal nitrogen excretion increased with nitrogen intake in all four periods, but, in contrast with fat excretion, the response to cimetidine and bicarbonate was not affected by the level of intake.

Authors' conclusions

Dietary intake appears to be a significant factor in determining the faecal output of fat and nitrogen in patients with pancreatic insufficiency and should be considered when determining the optimum amount of pancreatic supplementation.

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See also

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Keywords

Adolescent; Antacids; Bicarbonates; Child; Cimetidine; Combined Modality Therapy; Gastrointestinal Agents; Gastrointestinal Diseases; pharmacological_intervention; Pancreas insufficiency; Pancreatic Diseases; Pancreatic Enzyme Replacement Therapy; Supplementation; Malabsorption; Nutrition Disorders; Capsules; Airway clearance drugs -expectorants- mucolytic- mucociliary-; Respiratory System Agents; Histamine H2 Antagonists;