primary studies - published RCT

Effect of cimetidine on enzyme inactivation, bile acid precipitation, and lipid solubilisation in pancreatic steatorrhoea due to cystic fibrosis.

Code: PM3849459 **Year:** 1985 **Date:** 1985 **Author:** Zentler-Munro PL

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

randomized trial

Participants

8 adults with steatorrhoea due to cystic fibrosis

Interventions

three randomised treatment regimens (pancreatin, cimetidine, and both together).

Outcome measures

% meal entered the jejunum, lipase concentration and lipolysis

Main results

On pancreatin 60% of the test meal entered the jejunum at pH less than 5 compared with 17% in health. Lipase concentration and lipolysis increased over the values on no treatment (14.2 vs 4.4 U/l, p less than 0.01; 16% vs 11%, p less than 0.02) but bile acid precipitation was not reduced (38% vs 27%, NS), and aqueous-phase lipid concentration decreased (6.7 vs 8.6 mM/l, p less than 0.05). On cimetidine, bile acid precipitation fell (19% vs 38%, p less than 0.05); although lipase concentration and lipolysis were lower than on pancreatin (4.8 U/l vs 14.2 U/l, p less than 0.01; 9% vs 16%, p less than 0.01) lipid solubilisation increased (8.8 vs 6.7 mM/l, p less than 0.05). On the combination, there was a marked improvement (p less than 0.02) in lipid solubilisation (18.3 mM/l), reflecting the improvement both in lipase (38.4 U/l) and lipolysis (24%), and in bile acid precipitation (5.6%).

Authors' conclusions

The efficacy of pancreatin is limited by pH-dependent bile acid precipitation in addition to enzyme inactivation. The action of cimetidine in improving the efficacy of pancreatin depends on prevention of both these effects.

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See also

Gut. 1985 Sep;26(9):892-901.

Keywords

Adolescent; Adult; Cimetidine; Combined Modality Therapy; Gastrointestinal Agents; Pancreatic Enzyme Replacement Therapy; pharmacological_intervention; Supplementation; Pancreas insufficiency; Pancreatic Diseases; Gastrointestinal Diseases; Malabsorption; Nutrition Disorders; Histamine H2 Antagonists;