

### primary studies - published RCT

# Gastric function in children with cystic fibrosis: effect of diet on gastric lipase levels and fat digestion.

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

RCT

**Participants** 

6 children with cystic fibrosis

# Interventions

The patients were studied at three different periods: first during their usual diet, then 2 wk after consuming a moderate-fat diet (approximately 30% of calories derived from fat), and finally 2 wk after consuming a high-fat diet (approximately 50% of calories derived from fat). The diets were given in random order.

#### **Outcome measures**

Fasting and postprandial activity of digestive enzymes, gastric pH, and gastric volume measured before, during, and after 120 min of feeding

# Main results

Fasting and postprandial activity of digestive enzymes, gastric pH, and gastric volume measured before, during, and after 120 min of feeding did not differ significantly as a function of fat intake. Postprandial gastric lipase output (units per kilogram of body weight) during usual, moderate-fat, and high-fat diets was close to or higher than (38.8 +/- 7.2, 44.9 +/- 8.6, and 54.8 +/- 5.5 U/kg per 20 min) gastric lipase output of premature infants (22.5 +/- 6.4 to 28.3 +/- 6.6 U/kg per 20 min) or of healthy adults (5.4 +/- 0.4 U/kg per 15 min) fed a high-fat diet. Postprandial pepsin output was higher (4749 +/- 797, 6117 +/- 925, and 5444 +/- 819 U/kg per 20 min) than in premature infants (597 +/- 77 to 743 +/- 97 U/kg per 20 min) or healthy adults (781 +/- 56 U/kg per 15 min). Eighty minutes after feeding gastric lipolysis reached 20 to 36%.

# Authors' conclusions

This study shows that gastric lipase activity is high in cystic fibrosis patients maintained on diets providing 32% to 49% energy as fat, and that gastric lipase level did not increase over the ranges of dietary fat intake tested

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## See also

Pediatric research YR: 2004 VL: 55 DE: RCT NO: 3

## Keywords

Adolescent; Adult; Child; Infant; Newborn; non pharmacological intervention - diet; Supplementation; Pancreas insufficiency; Pancreatic Diseases; Gastrointestinal Diseases; Malabsorption; Nutrition Disorders;