



Impaired gastric acid and pancreatic enzyme secretion in patients with Crohn's disease may be a consequence of a poor nutritional state.

Winter TA, O'keefe SJ, Callanan M, Marks T.

Inflamm Bowel Dis. 2004 Sep;10(5):618-25.

Gastrointestinal Clinic, Department of Medicine, University of Cape Town, Groote Schuur hospital, Observatory, Cape Town, 7925, South Africa. winter@uky.edu

INTRODUCTION: Impaired pancreatic function has been reported in Crohn's disease, the cause of which is uncertain. This study investigated the effect of malnutrition, and subsequent re-feeding, on digestive function and protein synthesis in Crohn's disease patients. **METHODS:** Gastric acid and pancreatic secretion studies were performed on malnourished Crohn's patients before, and after a period of intensive nutritional support. Whole body, as well as pancreatic enzyme protein synthesis was investigated by [¹⁴C]leucine isotope incorporation studies. Results were evaluated in comparison to normal healthy volunteers. **RESULTS:** The mean body mass index (BMI) of the Crohn's patients was 14.14 kg/m². The Crohn's patients had reduction in the secretion of gastric acid (7.36 versus 25.53 mEq/h; P < 0.01), and the pancreatic enzymes, amylase (759.6 versus 2305 U/h; P < 0.01), lipase (33.01 versus 118.6 U/h; P < 0.01) and trypsin (97.43 versus 341.4 U/h; P < 0.01). Resting energy expenditure (REE), expressed in relation to body mass, was greater in the malnourished Crohn's disease patients (38.25 versus 25.36 kcal/kg/d; P = 0.01). Total body protein synthesis was reduced (2.82 versus 4.39 g protein/kg/d; P < 0.05), with significant impairment in the synthesis of pancreatic enzymes, and reduction of zymogen stores. Following re-feeding, the BMI of the Crohn's patients improved to 16.80 +/- 0.66 kg/m². Pancreatic enzyme synthesis improved, with significant increase in pancreatic enzyme stores and secretion, to levels similar to control values. Gastric acid secretion also improved, although still lower than the control value. **CONCLUSION:** Malnutrition may play a significant role in the impairment of gastric acid and pancreatic secretion in Crohn's disease patients. Copyright 2004 Lippincott Williams & Wilkins