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Case Report
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Exocrine Pancreatic Insufficiency Causing Severe Complications after Gastric Bypass Surgery - A Case Report

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Abstract

This case report describes the dramatic beneficial effects of pancreatic enzyme replacement therapy in a woman with severe incapacitating symptoms ten years after gastric bypass surgery for morbid obesity.

Introduction

Bariatric surgery is a very potent means of reducing long-term complications of obesity. National data from the Scandinavian Obesity Surgery Registry (SOREG) shows that 60% to 70% of type 2 diabetics are cured, around 40% are cured from hypertension, almost 80% are cured from obstructive sleep apnea [1]. A reduction of risk factors increases survival from all causes including many common cancers [2,3]. Surgery, however, comes with a price. Around 15% of patients will have complications requiring some kind of intervention within 5 years, these range from incisional hernias, internal hernias, perforations, stenoses, intestinal invaginations, bile stones and severe metabolic deficiencies to just mention a few [1,4]. Another consequence of bariatric surgery is postoperative reduction in exocrine function in gastrointestinal glands which could partly explain the sometimes very extensive caries problem and malabsorption most often blamed on the anatomic bypass effect in gastric bypass surgeries and duodenal switches. This fact is not generally known. The link between gastric surgery and chronic pancreatic insufficiency was first reported by Herner and Ysander as a case report in 1960 [5] and later as a case series where 60% of patients developed insufficient function of the exocrine pancreas [6], numbers that were confirmed by Friess et al. [7] ten years later who found a significant decrease in pancreatic polypeptide levels and increase in cholecystokinin secretion after total gastrectomy. The problem of exocrine insufficiency after bariatric surgery is not well studied except for a study by Borbely et al. [8], who found a clinically important incidence of 20% to 50% post-bariatric surgery and with a theoretical review by Vujasinovic et al. [9]. The exact mechanism is not known but anatomical and endocrine factors are probably important, such as sensory-motoric function of the upper gastrointestinal tract and altered levels of pancreatic polypeptide and incretins.

Case Presentation

This case concerns a woman of 50 who ten years earlier had laparoscopic gastric bypass surgery for morbid obesity. At the time with a BMI of 37 and without comorbidities. The operation was uneventful and she could return home after an overnight stay in hospital. Now follows ten years with increasing gastrointestinal problems. She experiences severe vomiting problems which severely affects her dental status with loss of enamel and subsequently teeth. She has intermittent severe stomach pains and gradually develops problems with diarrhea, up to ten per day. Repeat examinations with negative upper endoscopies (5), negative laparoscopies (2), a negative abdominal CT-scan and MRI-scan and Algology referral leads to overconsumption of codeine. Noteworthy is that she during this period has two completed pregnancies during which she has a temporary dramatic reversal of all her symptoms. As a last contingency reversal of the gastric bypass is considered but during the work-up a dietician suggests trying pancreatic enzyme replacement treatment. This has a dramatic effect with a total reversal of all symptoms. Diarrheas end after the first week. Vomiting is gradually reduced and ceases. Abdominal pains are reduced from every day to once a month and she can completely stop with pain medication. After having severe problems with most food-stuffs she can again eat normal food. Trying to titrate the least effective dose results

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in a daily dose of 500 000 units distributed over the daily meals. The effect has now lasted for over six months and she has regained her life.

Discussion

This case report demonstrates dramatic effects of treating insufficient pancreatic exocrine function in a woman ten years after gastric bypass surgery for morbid obesity. This complication is not well known in the bariatric surgery community and the effects of an insufficient pancreas is easy to ascribe to anatomical reasons following surgery. It is expected that there will be some unsettling of intestinal function, intermittent pain and some nausea, symptoms that are commonly caused by dumping and it is easy to overlook the possibility of exocrine insufficiency of the pancreas. An inhibition of pancreatic juice production can possibly be caused by the lower levels of Cholecystokinin (CCK) that is seen after bypassing the duodenum and also by the increased levels of glucagon-like peptide 1 (GLP-1) from the intestines, both mechanisms theoretically decreasing salivation and possibly also contributing to the oral health issues sometimes seen after gastric bypass surgery [10,11]. It is easy and cheap to try enzyme replacement therapy and it's logical that doses would need to be higher than usual due to the rearrangement of the upper gastrointestinal tract, resulting in shorter contact between enzymes and ingested food. The diagnosis can be asc.

Conclusion

Insufficient exocrine function of the pancreas is not uncommon after gastric surgery but easily overlooked as a cause for long-term complications. Further studies are needed to elucidate the mechanisms but treatment is easy and not expensive, and can sometimes have dramatic effects.

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