

HealthCare 2017- Laparoscopic Gastric Bypass in a Patient with Peritoneal Encapsulation and Malrotation of the Intestine - Carmen Mesas Burgos- Bariatric Center Stockholm

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Abstract

The number of bariatric procedures performed each year has increased exponentially worldwide. Obesity is increasing at an alarming rate in the developed world, reaching epidemic proportions. In Europe one fifth of the population is obese [1]. Several studies have shown a significant weight loss in patients treated surgically, with a long-term maintenance of the weight loss and improvement in many of the obesity-related medical illnesses [2]. Peritoneal encapsulation is a very rare developmental malformation, characterized by the presence of an accessory peritoneal sheath covering part or the entire small bowel. Clinically, most of the cases are diagnosed as incidental findings during unrelated surgery, and only few presented as bowel obstruction [3-6]. The incidence of colon malrotation in adults has been estimated to be 0.2-0.5 % in older reports .the majority are asymptomatic; found incidentally at the time of another operation or radiologic examination, and very few will become clinically evident .

Case Report:

A 38 years old man with a long-standing history of morbid obesity and body mass index of 35.5 kg/m² was scheduled for laparoscopic Roux-en-Y gastric bypass and met the International Federation for the Surgery of Obesity, IFSO, consensus criteria for bariatric surgery [11]. Preoperative assessment was performed and the patient underwent surgeon, dietitian, nurse and anesthesiologist consults, and routine blood tests were run. The patient did not have other associated comorbidities or previous medical history, and no other preoperative radiological examinations were performed. He denied any abdominal complaints of pain, nausea, vomiting or constipation, and had no past surgical history. The patient underwent scheduled LRYGB. The surgery was started routinely in French position, with the surgeon standing between the patient's legs with the patient in reverse Trendelenburg position. The procedure was performed using four 12 mm trocars and a Nathan's retractor to lift up the liver.

The remainder trocars were placed over the right upper quadrant, midline, subxiphoid and left flank regions under direct laparoscopic. To identify the Treitz ligament, the proximal small intestine was not found in its usual location at the base of the transverse mesocolon. Instead, a peritoneal membrane was found at the place of the duodenal-jejunal flexure. Despite extensive exploration, the anatomy could not be clearly defined, and an extra 12-mm trocar was placed in the left lower quadrant. The accessory peritoneal membrane lied posterior to the greater omentum, separating it from the small intestine. The colon and ileo-cecal valve were found at the normal position.

Discussion:

With the increasingly number of gastric bypass procedures for treatment of morbid obesity, unexpected challenges might encounter. This case highlights the need for bariatric surgeons to have full understanding of congenital anomalies and their management. Understanding the embryology and development of the midgut is essential in understanding and treating rotational defects of the intestines. The primitive digestive tube in the early embryo is a straight tube that consists of the foregut supplied by the celiac artery, the midgut supplied by the superior mesenteric artery (SMA), and the hindgut, supplied by the inferior mesenteric artery. a process divided in three stages: the first stage starts in the fifth g.w., when the midgut's cranial limb will rise to the distal portion of the duodenum, jejunum and major portion of the ileum. the orientation of the limbs in the creation of the entero-enterostomy: laying the bilio-pancreatic limb towards the patient's right side instead of the left, and the alimentary limb towards the left side instead of the right side like in the standard procedure, is the best orientation to prevent internal hernia, kinking and rotation. Moreover, a clear understanding and visualization of the anatomy are mandatory, and extra trocars should be widely used. In our case, the colon and caecum were placed in their normal position in the abdomen, no Ladd's bands were found, but the Treitz's ligament was rudimentary and the duodenal-jejunal junction was placed in the right upper quadrant. Both malformations take place in the same time frame of embryologic development, at 12th g.w.

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