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### CLINICAL CASE

## Gastric band erosion: Alternative management $^{st}$



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#### **KEYWORDS**

Gastric banding; Bariatric surgery; Band erosion; Morbid obesity; Complications

#### Abstract

Background: Obesity is a public health problem, for which the prevalence has increased worldwide at an alarming rate, affecting 1.7 billion people in the world. Objective: To describe the technique employed in incomplete penetration of gastric band where endoscopic management and/or primary closure is not feasible. Material and methods: Laparoscopic removal of gastric band was performed in five patients with incomplete penetrance using Foley catheterization in the perforation site that could lead to the development of a gastro-cutaneous fistula. *Clinical cases:* The cases presented include a leak that required surgical lavage with satisfactory outcome, and one patient developed stenosis 3 years after surgical management, which was resolved endoscopically. In all cases, the penetration site closed spontaneously. Discussion: Gastric band erosion has been reported in 3.4% of cases. The reason for inserting a catheter is to create a controlled gastro-cutaneous fistula, allowing spontaneous closure. Conclusions: Various techniques have been described: the totally endoscopic, hybrid techniques (endoscopic/laparoscopic) and completely laparoscopic. A technique is described here that is useful and successful in cases where the above-described treatments are not viable. © 2015 Academia Mexicana de Cirugía A.C. Published by Masson Doyma México S.A. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/ by-nc-nd/4.0/).

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PALABRAS CLAVE Banda gástrica;

Cirugía bariátrica; Erosión de banda; Obesidad mórbida; Complicaciones

#### Banda gástrica penetrada. Una alternativa de tratamiento

#### Resumen

*Antecedentes*: La obesidad es un problema de salud pública cuya prevalencia se ha incrementado a nivel mundial de forma alarmante, afectando a 1.7 billones de personas en el mundo. *Objetivo*: Describir la técnica empleada en penetración incompleta de banda gástrica cuyo manejo endoscópico o cierre primario no es viable.

*Material y métodos:* Se realizó retiro laparoscópico de banda gástrica en 5 pacientes con penetración incompleta y colocación de sonda Foley en el sitio de perforación, favoreciendo el desarrollo de una fístula gastrocutánea.

*Casos clínicos*: Se presentó una fuga que requirió lavado quirúrgico con evolución satisfactoria; un paciente desarrolló estenosis 3 años después del manejo quirúrgico, que se resolvió con dilatación endoscópica. En todos los casos se logró el cierre espontáneo del sitio de penetración. *Discusión*: La erosión por banda gástrica se ha reportado en un 3.4%. El razonamiento de poner una sonda consiste en crear una fístula gastrocutánea controlada que permita el cierre espontáneo.

*Conclusiones*: Se han descrito diversas técnicas: las totalmente endoscópicas, técnicas híbridas (endoscópicas/laparoscópicas) y totalmente laparoscópicas. Se describe una técnica que resulta útil y exitosa en casos en los que los tratamientos antes descritos no son viables.

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### Background

Obesity is a public health problem whose prevalence has increased at an alarming rate, affecting 1.7 billion people world-wide, and is associated with premature mortality, chronic morbidity, increased health services, reduced quality of life and social stigmatisation. According to data from the Organisation for Economic Cooperation and Development (OECD), Mexico is the second country, after the USA, with the highest prevalence of obesity at 24.2% of the population.<sup>1</sup> Bariatric surgery has proved safe and effective in managing obesity, and it has benefits in improving or resolving the associated comorbidities. Among the current surgical techniques, the gastric band is a procedure with low mortality (0.02%) and morbidity, because it is not very invasive, it is reversible, it enables the size of the stomach to be controlled and is a technique which is easy to perform.<sup>2</sup> According to Needleman and Happel, it was described by Belachew in 1993. It gained popularity world-wide and became the most frequently performed bariatric surgery in Europe, Australia and Latin America. The FDA approved it in 2001.<sup>3</sup> Reported results vary in terms of efficacy. One of the late gastric band complications reported is erosion or intragastric migration, with a reported incidence which varies from 0% to 5.8%, with an average of between 0.6% and 3%,<sup>4</sup> but there are series such as that of Suter et al. which report an incidence of up to 9.5%.<sup>5</sup> On average this occurs 12 months after fitting the band, and is associated with the technique used to fit it. The pars flaccid technique is currently recommended as it has a lower rate of erosion.<sup>6-8</sup> The causes of erosion are not precisely known but the following have been considered: injury to the serosa during surgery by cautery or on fitting the device, sutures to the gastric wall, overfilling the band causing ischaemia, peptic ulcer, alcohol and smoking.  $^{9,10}$ 

Reported symptoms are: vague stomach ache, obstruction, insufficient weight loss, recurrent port infection,<sup>11</sup> while another review mentions that the most common symptom is loss of satiety.<sup>12</sup> Diagnosis in all cases is made by endoscopy.<sup>13</sup> Although cases diagnosed with a contrasted oesophagogastric series have been reported, in which the material is seen inside the stomach, encircling part of the band.<sup>14</sup>

Treatment consists of removing the band, and there are different ways of doing so, and subsequent management, but there is no evidence that erosion, even when minor, will heal itself. Removal by endoscopy has been suggested,<sup>15</sup> as long as the buckle of the band is in the stomach lumen, otherwise, it is performed by laparoscopy with omental patch.<sup>16</sup> Although there are groups who report the placement of stents to force the gastric band with incomplete penetration to migrate towards the gastric lumen to then be removed by endoscopy, with a 66% success rate.<sup>17</sup> There is also a group who report endoscopic management with opening of the stomach to release intra-abdominal adherences or with incomplete penetration. Other authors, including the author who originally proposed removing the band and primary closure,<sup>18</sup> propose immediate rebanding in cases of gastric band erosion, if the gastric wall has incurred little damage from inflammatory response.<sup>19</sup> Others propose a period of 4 months after removing the band as a reasonable time to attempt rebanding.<sup>20</sup> And conversion to another procedure is indicated by some, who postulate that simply removing the band results in a reduction of weight loss or even weight gain.<sup>21,22</sup>

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