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# *Mycobacterium Chelonae* associated with rapid erosion of non-sutured laparoscopic gastric band



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## ABSTRACT

**INTRODUCTION:** To describe a case of rapidly eroded laparoscopic placed non-sutured gastric band secondary to *Mycobacterium chelonae*.

**PRESENTATION OF CASE:** A 65 year old male, who had undergone laparoscopic gastric banding two months prior for morbid obesity, presented to the clinic complaining of abdominal pain and night time fever of 4 days duration. Urgent gastroscopy revealed eroded gastric band which was removed laparoscopically. **DISCUSSION:** *M. chelonae* are not uncommon in Queensland. Although the mode of acquisition of infection remains unclear, it is suspected that human disease results from environmental exposure to dirty soil and water. The patient lives in rural Queensland and uses tank water which may be contaminated with *M. chelonae*.

**CONCLUSION:** It is imperative to consider environmentally acquired infection in patients with rapid erosion of non-sutured gastric band.

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## 1. Introduction

To describe a case of rapidly eroded laparoscopic placed non-sutured gastric band secondary to *Mycobacterium chelonae*. *Mycobacterium chelonae* is a rapidly growing mycobacterium (RGM) found throughout the environment including soil, sewage and tap water. It can occasionally cause opportunistic infections of humans. *Mycobacterium chelonae* belongs to the family of nontuberculous mycobacteria (NTM) classified in the rapidly growing mycobacteria, Runyon group IV that are non-pigmented. RGM typically show visible colonies on solid growth media within 1 week [1].

## 2. Presentation of case

A 65 year old male, who had undergone laparoscopic gastric banding two months prior for morbid obesity with a BMI of 42, presented to the clinic complaining of abdominal pain and night time

fever of 4 days duration. This was not associated with any nausea or vomiting but with burping and inability to tolerate food. He was also complaining of sluggish bowel movements. General examination revealed that he was dehydrated with no temperature or tachycardia. Abdominal examination revealed mild tenderness in the left lower quadrant (LLQ). The patient was admitted for intravenous fluid therapy, pain management and further investigations. Blood tests revealed raised WCC of 12.3  $10^9/L$  (3.5–10.0) with a neutrophilia of 10.22  $10^9/L$  (1.5–6.5). The inflammatory markers were raised, CRP 152 mg/l (0–10) and ESR 29 mm/h (1–15). His ALP 153 u/l (35–110) was also raised but the rest of the liver function tests were within normal limits. An urgent abdominal CT scan failed to reveal any slippage of gastric band, free gas or fluid in the abdominal cavity. An incidental finding of diverticulosis without any complications was also noted in the CT scan. The patient was started on broad spectrum antibiotics and a gastroscopy was arranged for the next day which showed an eroded gastric band (Fig. 1). He was therefore prepared for laparoscopic removal of this eroded band. Laparoscopy showed extensive and dense omental adhesions to the band. The band was dissected all the way to the eroded part of the stomach and removed. The stomach wall defect was closed with interrupted sutures and reinforced with an omental patch. During removal of his port a large abscess cavity was

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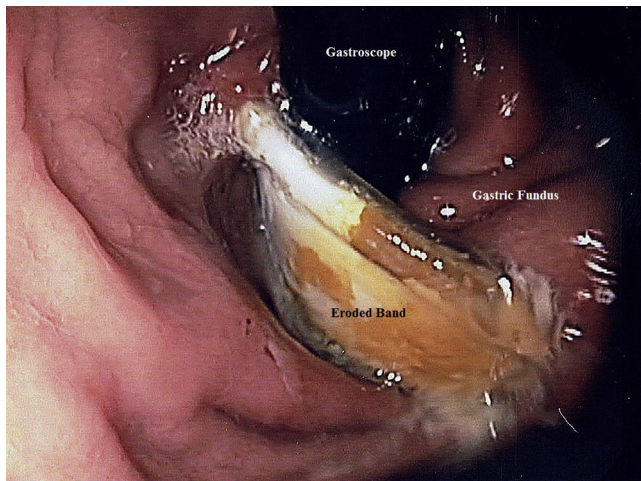


Fig. 1.

encountered. The gastric band, port and abscess swab were sent for culture.

Patient's postoperative recovery was stormy as he continued to spike fever every night despite the removal of the eroded band and taking broad spectrum antibiotics. A repeat double contrast CT scan postoperatively failed to demonstrate any leak or free fluid in the abdomen. The initial culture and sensitivity results from the prosthesis revealed light growth of *Candida albicans*, *Candida glabrata* complex and a rapidly growing *mycobacterium*. The advice from an infectious diseases specialist was sought and the patient was started on appropriate antibiotics and antifungal treatment. The patient started making good progress on that treatment and was discharged home 10 days later to be reviewed by the infectious disease specialist with a view to treating these RGM once the species was identified. The patient was subsequently commenced on intravenous Cefoxitin and oral Clarithromycin and Fluconazole and is making excellent progress.

### 3. Discussion

*M. chelonae* are not uncommon in Queensland. Although the mode of acquisition of infection remains unclear, it is suspected that human disease results from environmental exposure to dirty soil and water. The patient lives in rural Queensland and uses tank water which may be contaminated with *M. chelonae*. Minor trauma such as repeated use of non-coring needle to inflate or deflate the band may provide a portal of entry for infection if the skin is already colonised with the *M. chelonae*. Alternatively, *mycobacterium* colonization of the solution used to inflate the band could result in infection [2]. *M. chelonae*, along with *M. abscessus*, are considered the most drug resistant of the NTM group, which leads to difficulty when treating infections with these organisms. Current guidelines from the American Thoracic Society and the Infectious Diseases Society of America (ATS/IDSA) suggest therapy on the basis of susceptibility testing and advocate combination therapy [3].

The incidence and prevalence of NTM varies considerably, and *M. chelonae* has been reported in South America, Australia, Taiwan, China, Japan, Canada, Korea, Germany, Italy, France, Switzerland, the United Kingdom, and The Netherlands [1]. A national Australian survey in 2000 reported that all 22 *M. chelonae* pulmonary isolates were not considered pathogens, while the organism was considered pathogenic in 17 of 131 soft-tissue isolates [4]. Infections associated with surgical procedures may present as wound infections, draining fistulae/sinus tracts, or inflamed and/or dysfunctional prosthetic devices. Bacteremia is associated with fever,

with or without chills, in immunocompromised patients with intravascular catheters, hemodialysis catheters, peritoneal dialysis catheters, biliary stents, and prosthetic heart valves [5,6]. In Australia, RGM associated with laparoscopic gastric banding has been studied in detail by Wright et al. [2]. They identified 18 cases over a six years period; the causative organism was *M. fortuitum* and *M. abscessus*. They have not described *M. chelonae* as one of the causative agents. This is surprising as although, *M. abscessus* and *M. chelonae* were considered the same organism or subspecies within the *M. chelonae-abscessus* group until 1992, *M. chelonae* became its own species based on previous genomic studies in 1992 [7,8]. Based on this information, this is the very first case of *M. chelonae* associated with eroded gastric band which is non-sutured.

### 4. Conclusions

It is important to consider environmentally acquired infection in patients with rapid erosion of non-sutured gastric band and the entire band must be subjected to microbiological examination. As this group of RGM is quite resistant to infection, patients will require close management and prolonged antibiotic therapy to achieve a cure.

### Conflict of interest

No conflict of interest was declared by any authors.

### Funding

None.

### Ethical approval

No ethical approval was required as this is a retrospective case study.

### Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

### Author contribution

All authors have contributed equally in study concept or design, data collection, data analysis or interpretation and writing this paper.

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