

Public cost of privately inserted laparoscopic adjustable gastric bands

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Background: Laparoscopic adjustable gastric banding (LAGB) remains a commonly performed procedure for morbid obesity. Concerns regarding its long-term consequences include high rates of band removal from complications and failure to lose weight. Many private practices continue to perform LAGB but, owing to short follow-up periods, the burden of surgical complications falls upon National Health Service (NHS) bariatric units. This study aimed to review the NHS treatment of patients for complications related to privately performed LAGB.

Methods: All surgical complications following bariatric surgery referred to the Welsh Institute of Metabolic and Obesity Surgery (WIMOS) between September 2010 and September 2014 were reviewed. Type of complication, procedures performed, and number of outpatient attendances and inpatient stays were recorded. Costs of treatment were estimated using standard tariffs.

Results: A total of 78 patients presented with complications after privately performed bariatric surgery. Sixty had undergone LAGB; the remainder had had other bariatric procedures. Median age was 45 (range 22–78) years, and 65 (83 per cent) were women. Urgent band deflation was undertaken in 53 patients. Band removal surgery was required in 32 patients; one patient needed a subtotal gastrectomy. There was a total of 123 outpatient/ward attendances and 340 days of inpatient care, including 10 days of intensive care. The estimated total cost to the NHS of managing these patients was €337 400 (€84 350 per annum).

Conclusion: The cost burden to the NHS of managing the complications of bariatric surgery performed in the private sector is considerable. Although it is imperative that such complications be managed in well equipped specialist units, private surgery providers should have better follow-up plans and/or contractual agreements with the NHS.

Funding information

No funding

Paper accepted 13 December 2018

Published online 4 March 2019 in Wiley Online Library (www.bjsopen.com). DOI: 10.1002/bjs5.50141

Introduction

Obesity is a growing problem facing healthcare systems, particularly in the developed world¹. Gastric surgery for obesity, first pioneered in 1973, aimed to promote weight loss by achieving early satiety². Laparoscopic band insertion was first performed in 1993³. The modern approach is the introduction of a silicone band via a retrogastric tunnel through the pars flaccida, with the band held in place with gastrogastic sutures⁴. A port is then placed in an accessible subcutaneous location (for example the xiphisternum), allowing the band to be inflated or deflated.

The position of the band is confirmed on X-ray and its functional status can be determined with contrast fluoroscopy.

Complications of the laparoscopic adjustable gastric band (LAGB) include slippage, pouch dilatation, reflux, gastric erosion and port-related complications^{5,6}. Treatment usually requires specialist care with fluoroscopy to deflate bands and/or a return to theatre for removal. A large UK study⁷ reported that up to 21 per cent of bands required removal within the first 2 years, and the number increased with time. Many of the complications from privately inserted LAGBs are being treated in the National

Health Service (NHS), with costs potentially being drawn away from the already limited funding of bariatric surgery units.

The aim of this study was to assess the burden of complications of privately inserted LAGBs on the NHS.

Methods

All patients referred to the Welsh Institute of Metabolic Disease and Obesity Surgery (WIMOS) with gastric band complications between September 2010 and September 2014 were included. WIMOS is currently the only specialist bariatric surgery unit in Wales. Patients were identified from a dedicated database maintained by the bariatric clinical nurse specialist and linked to the National Bariatric Surgical Register.

The number of inpatient days, including intensive care, outpatient assessments, specialist diagnostic investigations and procedures performed were recorded. Estimated care costs were collated by the Abertawe Bro Morgannwg University Health Board's finance department using standard tariffs.

Results

WIMOS received 78 external referrals for privately treated patients with bariatric surgery-related complications within the study period. Median age was 45 (range 22–78) years and 65 patients were women.

Sixty patients (77 per cent) had undergone a previous LAGB operation and presented with LAGB-related problems. The remaining 18 patients had had a laparoscopic Roux-en-Y gastric bypass (3 patients), laparoscopic sleeve gastrectomy (4), intragastric balloon (10) and vertical banded gastroplasty (1). Only reinterventions after LAGB were included in this study.

In the 60 patients presenting with LAGB-related complications, the most common complaint was dysphagia. Urgent band deflation was performed in 53 patients. The following investigations were required: contrast swallow in 48 patients, oesophagogastroduodenoscopy in five and oesophageal manometry in three patients.

Thirty-two of the 60 patients (53 per cent) required urgent band removal; 18 of these (56 per cent) were for dysphagia with or without slippage. Nine patients (28 per cent) required removal due to erosion with or without abdominal sepsis, with one intraoperative complication resulting in a splenectomy. Other indications for removal were slippage (3) and a leaking port-band system (2). One additional patient required a partial gastrectomy owing to gastric necrosis.

A total of 123 outpatient or ward visits were recorded with 340 inpatient days, 10 days of which were in the ICU.

The total cost of managing LAGB-related complications in terms of clinical assessment (both inpatient and outpatient) was estimated as €24 725. The total cost of diagnostic tests was €36 675. The estimated cost of surgical procedures performed was €155 375 and that of inpatient stay was €120 625. This resulted in a total of €337 400 over the study period (€84 350 per annum).

Discussion

LAGB complications represent a significant proportion of the complications encountered in the regional bariatric surgery unit in this study. All LAGB complications presenting to the unit were external referrals as no LAGB insertions were performed on site owing to the widely reported complication rates. One-quarter of the WIMOS annual budget is spent assessing and treating these patients. This results in less funding and fewer resources that could be used for the treatment of new patients fitting the criteria for bariatric treatment according to National Institute for Health and Care Excellence guidelines⁸.

Weight loss from gastric banding is reported as 50–60 per cent excess weight at 2 years which is lower than that achieved by gastric bypass and sleeve gastrectomy⁵. However, it can be done as a day-case procedure and has proved popular in the private sector, with companies such as The Hospital Group and BUPA offering it. With proper follow-up and band adjustments, it has been reported to be successful in Australia⁹, but aftercare is variable in the private sector and the recommended fluoroscopic guidance for band manipulations may not be available¹⁰.

LAGB procedures are still performed in some NHS bariatric units that have a high volume of work. The most prevalent complication remains upper pouch dilatation with downward band slippage. Brown and colleagues⁷ reported a 21.2 per cent band removal rate (from a total of 674 bands), with a higher incidence (28.6 per cent) in patients with a BMI above 60 kg/m². The surgical reintervention rate was reported as 58 per cent after band removal⁷. Keidar and colleagues¹¹ reported an 8.4 per cent rate of band slippage, with the band being removed in 56 per cent of these patients. Methods of reducing the rates of band slippage, such as mesh plication, have been suggested, with good preliminary results¹².

It is recognized that the LAGB procedure can be successful in patients with proper preoperative evaluation, who are motivated to the changes required and have regular follow-up for band adjustments. Unfortunately, there are no UK or European regulations governing this process,

and currently LAGB operations are performed with poor patient selection, counselling and follow-up in the private sector. This inevitably leads to frequent complications, which patients are unable or unwilling to have treated privately and are subsequently referred to NHS bariatric services.

Complications of LAGB procedures are associated with significant cost implications in both health and financial terms. They usually require specialist bariatric management and band removal. At present, patients having privately inserted LAGBs do not have adequate follow-up, with the ongoing cost of complication management being carried by the NHS. This study demonstrates the need for development of clear pathways for follow-up and management of complications of these patients by their primary centre. Better regulation of private practice patients, pre-operative counselling and evaluation and follow-up procedures may be one solution to help ease the financial burden of treating these complications on the NHS, thus allowing specialist units to focus on treating new patients³.

Disclosure

The authors declare no conflict of interest.

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