

## Bariatric Surgery Referral as an Alternative to Fundoplication in Obese Patients Presenting with GORD: A Retrospective Hospital-Based Cohort Study

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**Abstract :** Introduction: Fundoplication is widely recognised as the best surgical option for gastro-oesophageal reflux disease (GORD) in the general population. However, there is controversy surrounding the use of conventional fundoplication in obese patients. Whilst the intra-operative failure of fundoplication, including wrap disruption, is reportedly higher in obese individuals, the more significant issue surrounds symptom recurrence post-surgery. Could a bariatric procedure be considered in obese patients for weight management, to treat the GORD, and to also reduce the risk of recurrence? Roux-en-Y gastric bypass, a widely performed bariatric procedure, has been shown to be highly successful both in controlling GORD symptoms and in weight management in obese patients. Furthermore, NICE has published clear guidelines on eligibility for bariatric surgery, with the main criteria being type 3 obesity or type 2 obesity with the presence of significant co-morbidities that would improve with weight loss. This study aims to identify the proportion of patients who undergo conventional fundoplication for GORD and/or hiatus hernia, which would have been eligible for bariatric surgery referral according to NICE guidelines. Methods: All patients who underwent fundoplication procedures for GORD and/or hiatus hernia repair at a single NHS foundation trust over a 10-year period will be identified using the Trust's health records database. Pre-operative patient records will be used to find BMI and the presence of significant co-morbidities at the time of consideration for surgery. This information will be compared to NICE guidelines to determine potential eligibility for the bariatric surgical referral at the time of initial surgical intervention. Results: A total of 321 patients underwent fundoplication procedures between January 2011 and December 2020; 133 (41.4%) had available data for BMI or to allow BMI to be estimated. Of those 133, 40 patients (30%) had a BMI greater than 30kg/m<sup>2</sup>, and 7 (5.3%) had BMI >35kg/m<sup>2</sup>. One patient (0.75%) had a BMI >40 and would therefore be automatically eligible according to NICE guidelines. 4 further patients had significant co-morbidities, such as hypertension and osteoarthritis, which likely be improved by weight management surgery and therefore also indicated eligibility for referral. Overall, 3.75% (5/133) of patients undergoing conventional fundoplication procedures would have been eligible for bariatric surgical referral, these patients were all female, and the average age was 60.4 years. Conclusions: Based on this Trust's experience, around 4% of obese patients undergoing fundoplication would have been eligible for bariatric surgical intervention. Based on current evidence, in class 2/3 obese patients, there is likely to have been a notable proportion with recurrent disease, potentially requiring further intervention. These patient's may have benefitted more through undergoing bariatric surgery, for example a Roux-en-Y gastric bypass, addressing both their obesity and GORD. Use of patient written notes to obtain BMI data for the 188 patients with missing BMI data and further analysis to determine outcomes following fundoplication in all patients, assessing for incidence of recurrent disease, will be undertaken to strengthen conclusions.

**Keywords :** bariatric surgery, GORD, Nissen fundoplication, nice guidelines

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