

Does body mass index important in preoperative evaluation of patients electing gastrointestinal surgery?

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ABSTRACT

At Queen Elizabeth Hospital in Birmingham (QEHB), there is no specific procedure for stratifying patients by body mass index (BMI). This study aimed to evaluate the outcome after gastrointestinal surgery. Patients undergoing gastrointestinal surgery who attended the Pre-Assessment Screening (PAS) clinic from August to September 2016 at QEHB were identified. The primary outcome was postoperative complications. Secondary outcomes were major complications and 30-day readmission rates. Result. Of the 368 pre-evaluated patients, 31% (116/368) were overweight and 35% (130/368) were obese. Median age was 57 years (range: 17-93). There was no difference in BMI between low-risk and high-risk clinics. Patients in high-risk clinics have significantly higher morbidity, major surgical grade, and malignancy as an indication for surgery. The overall complication rate was 14% (52/368), of which 3% (10/368) had serious complications (Clavien-Dindo Grade III-IV). Although BMI was associated with comorbidities and ASA level, it was not associated with worse outcomes. Patients presenting to a high-risk clinic have a significantly higher rate of complications. Findings the degree of surgery is considered an independent risk factor for complication rates. It is not reasonable to use BMI as an independent factor for the extent of prior assessment in our cohort. The prevalence of obesity is rapidly increasing in developed countries, with prevalence rates in the US (35.7%) and the UK (26.1%) expected to double. Estimates predict that up to 66% of patients undergoing surgery in the UK are overweight. Current conflicting evidence regarding the impact of obesity on postoperative complications following major surgery. Multicenter studies of specific patient populations in Japan, Denmark, Switzerland, and the United States have associated obesity with worse or neutral short-term postoperative outcomes.

Keywords: Body mass index; rectal neoplasms; Pelvic exenteration; Treatment outcome

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INTRODUCTION

Despite this, there is little evidence for the benefit of preoperative management of obese patients in specialized high-risk pre-assessment clinics and its impact on postoperative outcomes [1]. Such as complications and length of hospital stay [2]. The recently published guidelines of the Association of Anesthesiologists of Great Britain and Ireland (AAGBI) recommend that all obese patients be assessed preoperatively by an anaesthesiologist in clinics [3]. However, clinical evidence to support this recommendation is lacking and is largely based on expert opinion [4]. Since the variable of interest is body mass index (BMI), randomized trials that refer patients to pre-assessment clinics cannot be performed [5]. To build on the limited literature and provide more insight into the need for pre-assessment stratification by BMI, this prospective study seeks to assess the impact of BMI on Postoperative outcomes in patients undergoing preoperative gastrointestinal evaluation. This prospective study identified patients who attended the Pre-Assessment Screening (PAS) clinic for minor to major gastrointestinal surgery between August 2016 and September 2016 at Queen Elizabeth Hospital, Birmingham (QEHB) [6]. Adult patients (≥ 18 years) with persistent BMI > 30 kg/m² undergoing gastrointestinal or hepatobiliary surgery were included in the study [7]. Eligible procedures are those that involve surgery on any part of the gastrointestinal tract or biliary tract, involving an overnight hospital stay. Patients undergoing urological, gynecological, vascular, or transplant procedures on an outpatient basis were excluded [8]. This study was recorded and approved by the local audit department [9]. The patient's medical records were reviewed and data extracted into a unified database (Microsoft® Excel 2010) designed to include all details relevant to this study. At QEHB, all patients undergoing surgery are referred by the surgeon to specialized pre-assessment clinics based on the extent of surgery and comorbidities [10]. Clinics are divided into low-risk and high-risk clinics; numerically, they correspond to levels 1 and 2A and 2B and 3, respectively. Low-risk clinics are led and conducted by nurses trained in pre-assessment, while high-risk clinics are led and performed by private nurses and Anesthesiologists.

DISCUSSION

The primary explanatory variable was preoperative BMI, assessed during attendance at the PAS clinic. BMI is calculated as weight (in kilograms) divided by the square of height (in meters). With the primary objective of this

study to assess the effects of overweight or obesity, patients were stratified by BMI into groups defined by the World Health Organization (WHO) as: normal weight (BMI 18) ,5–24.9 kg/m²), overweight (BMI 25.0–29.9 kg/m²) and obese (BMI ≥ 30.0 kg/m²). The explanatory variables were collected to provide risk-adjusted estimates. Variables were predefined and selected based on clinical plausibility. Comorbidities were assessed using the American Association of Anesthesiologists (ASA) Physical Score Scale, a standard measure of disease severity and a reliable method for assessment. Mortality and complications after surgery surgical grade is a category that indicates the combination of complexity and extent of tissue damage in the surgical procedure. The exact definitions used are similar to those in a recent publication of the European Surgical Outcomes Study [10]. Surgical method was defined as open, laparoscopic or laparoscopic/ultrasound (applicable to minor surgery only).

CONCLUSION

The primary endpoint was complications after 30 days

as defined by the Clavien-Dindo classification system. Secondary outcomes were major complications, 30-day re-hospitalization rates, and postoperative care environment. This study was designed to detect minimally significant differences between normal weight, overweight and obese patients. A minimum of 356 patients is required to provide 80% energy $\alpha = 0.05$. The baseline characteristics were compared between groups using Pearson's chi-square test for categorical variables and Mann-Whitney test for continuous variables. Multivariable logistic regression was used to determine the association between risk factors for postoperative complications. Models constructed included age, sex, and ethnicity, and surgical grade, presence of specific comorbid conditions, surgical specialty, and surgical approach. The results are presented as a risk ratio RR with a 95% confidence interval. In all analyses, a value <0.05 was maintained as statistically significant. All data analyses were performed using IBM SPSS Statistics Version 22.0. More experienced consultant. As there was no systematic risk stratification method, each patient was assigned a PAS clinic based on the referring surgeon's preliminary individual risk assessment.

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