Anaesthesia for the super-morbidly obese: a role for specialist centres?

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INTRODUCTION

Morbid obesity is growing in prevalence in the UK. In 1999, 0.8% of men and 1.8% of women, approximately 650 000 people in total, were morbidly obese (body mass index (BMI) >40 kg/m^2). The associated increase in morbidity and mortality has led the UK government to sponsor several organizations to tackle obesity, including the National Audit Office (2001). In keeping with the Department of Health advocating specialist centres to manage morbidly obese patients, the authors believe these or similar centres should manage the even more challenging super-morbidly obese (SMO) patients (BMI >50 kg/m^2) during surgical episodes.

IMPACT OF OBESITY ON PERIOPERATIVE OUTCOMES

There are conflicting data regarding the impact of obesity on perioperative morbidity and mortality from surgery under general anaesthesia. Early data demonstrated obesity to be predictive of adverse perioperative outcomes, particularly respiratory events, while more recent data suggest that obesity is not an independent risk factor for worse outcome, over and above the significant effects of associated comorbidities (Forrest et al, 1992; Dindo et al, 2003).

There may be reasons for this discrepancy. Bias may be introduced when investigating teams are experienced in and equipped for managing the SMO patient. Further, the above papers define obesity as BMI >30 kg/m^2. Although obesity-related comorbidity starts to increase at this level, it is likely that perioperative, particularly anaesthesia-related, complications become more common at higher BMI. Data suggest that airway-associated problems are much more common when neck circumference exceeds 60 cm (Ogunnaike et al, 2002). A major reason for lack of evidence of adverse outcome in SMO patients undergoing general anaesthesia and surgery is because this group is poorly investigated.

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SPECIALIST ANAESTHESIA AND SURGERY CENTRES

Specialist services provided by an expert multidisciplinary team include research, education and provision of clinical services. The main aim of this is to improve clinical outcomes, but with rationalization of services and concentration of expertise and equipment, cost savings may also follow.

Despite the ambiguities of outcome evidence, the number of papers describing anaesthetic management of the morbidly obese show that severe obesity concerns anaesthetists. SMO patients pose very specific perioperative challenges, as addressed in articles relating to anaesthesia for bariatric surgery. These issues relate predominantly to a requirement for expertise and equipment (Ogunnaike et al, 2002).

Understanding the differences in anatomy, physiology and pharmacology in the obese patient is fundamental to the safe management of the SMO patient, and may result in novel modifications of standard techniques. For example, since BMI is a risk factor for difficult airway management and predictors of a difficult airway in the lean population are unhelpful in the obese, these patients should be anaesthetized by individuals experienced in managing SMO airways (Juvin et al, 2003).

Patient safety may be compromised with the use of inappropriate equipment or lack of availability of correct equipment, operating tables and trolleys must be able to support excessive weights, surgical or anaesthetic procedures require access to specialized instruments (e.g. fibreoptic or Bullard laryngoscopes), and there should be access to oversized ancillary equipment including hoists, beds and wheelchairs. These equipment needs carry an enormous cost, but the alternative is improvization and risks to patients and staff.

CONCLUSIONS

Whether or not obesity is an independent risk factor for adverse perioperative outcome, the SMO patient is more difficult to manage. Experienced practitioners and adequate equipment are needed to provide quality care to these patients. Standards must be set for managing the SMO patient, and the specialist centre is one solution to this problem. HM

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