



Original article

Obesity Surgery Mortality Risk Score for the Prediction of Complications After Laparoscopic Bariatric Surgery^{☆,☆☆}



Leyre Lorente,^a José Manuel Ramón,^{a,*} Pablo Vidal,^a Alberto Goday,^{b,c}
Alejandra Parri,^b Enrique Lanzarini,^a Manuel Pera,^{a,d} Luis Grande^{a,d}

^a Sección de Cirugía Gastrointestinal, Servicio de Cirugía, Hospital Universitario del Mar, Institut Hospital del Mar d'Investigacions Mèdiques (IMIM), Barcelona, Spain

^b Servicio de Endocrinología, Hospital Universitario del Mar, Institut Hospital del Mar d'Investigacions Mèdiques (IMIM), Barcelona, Spain

^c Departamento de Medicina, Universidad Autónoma de Barcelona, Bellaterra, Barcelona, Spain

^d Departamento de Cirugía, Universidad Autónoma de Barcelona, Bellaterra, Barcelona, Spain

ARTICLE INFO

Article history:

Received 7 August 2013

Accepted 24 September 2013

Available online 19 May 2014

Keywords:

Morbid obesity

Bariatric surgery

Surgical complications

Predictive factors

A B S T R A C T

Introduction: Morbimortality after bariatric surgery varies according to patient characteristics and associated comorbidities. The aim of this study was to evaluate the usefulness of the obesity surgery mortality risk score scale (OS-MRS) to predict the risk of postoperative complications after bariatric surgery.

Methods: A retrospective study was performed on a prospective series of patients undergoing bariatric surgery in which the OS-MRS scale was applied preoperatively. Postoperative complications were classified as proposed by Dindo–Clavien. We analysed the relationship between the categories of OS-MRS scale: (A) low risk, (B) intermediate risk, and (C) high risk and the presence of complications.

Results: Between May 2008 and June 2012, 198 patients were included (85 [42.9%] after gastric bypass and 113 [57.1%] after sleeve gastrectomy). Using the OS-MRS scale, 124 patients were classified as class A (62.6%), 70 as class B (35.4%) and 4 as class C (2%). The overall morbidity rate was 12.6% (25 patients). A significant association between OS-MRS scale and rate of complications (7.3, 20 and 50%, respectively, $P=.004$) was demonstrated. The gastric bypass was associated with a higher complication rate than sleeve gastrectomy ($P=.007$). In multivariate analysis, OS-MRS scale and surgical technique were the only significant predictive factors.

Conclusions: The OS-MRS scale is a useful tool to predict the risk of complications and can be used as a guide when choosing the type of bariatric surgery.

© 2013 AEC. Published by Elsevier España, S.L. All rights reserved.

[☆] Please cite this article as: Lorente L, Ramón JM, Vidal P, Goday A, Parri A, Lanzarini E, et al. Utilidad de la escala Obesity surgery mortality risk score en la predicción de complicaciones tras cirugía bariátrica por vía laparoscópica. Cir Esp. 2014;92:316–323.

^{☆☆} The preliminary data from this study were presented at the Congreso Nacional de Cirugía, Madrid 2012 (National Surgery Conference in Madrid, 2012) and in the Congreso Nacional de la Sociedad Española de Cirugía de la Obesidad, Madrid 2013 (National Conference of the Spanish Society of Obesity Surgery).

* Corresponding author.

E-mail address: jramon@parcdesalutmar.cat (J.M. Ramón).

2173-5077/\$ – see front matter © 2013 AEC. Published by Elsevier España, S.L. All rights reserved.

Utilidad de la escala *Obesity surgery mortality risk score* en la predicción de complicaciones tras cirugía bariátrica por vía laparoscópica

RESUMEN

Palabras clave:

Obesidad mórbida
Cirugía bariátrica
Complicaciones quirúrgicas
Factores predictivos

Introducción: La morbimortalidad tras la cirugía bariátrica varía según las características de los pacientes y las comorbilidades asociadas. El objetivo de este estudio fue evaluar la posible utilidad de la escala *Obesity surgery mortality risk score* (OS-MRS) para prever el riesgo de complicaciones postoperatorias tras cirugía bariátrica.

Métodos: Estudio retrospectivo de una serie prospectiva de pacientes intervenidos de cirugía bariátrica a los que se aplicó antes de la operación la escala OS-MRS. Se clasificaron las complicaciones postoperatorias siguiendo la propuesta de Dindo-Clavien. Se analizó la relación entre las categorías de la escala OS-MRS: (A) bajo riesgo; (B) riesgo intermedio y (C) riesgo elevado, y la presencia de complicaciones.

Resultados: Entre mayo del 2008 y junio del 2012 se incluyó a 198 pacientes (85 [42,9%] a los que se realizó un bypass gástrico y 113 [57,1%] con una gastrectomía vertical). Utilizando la escala OS-MRS, 124 pacientes se clasificaron como clase A (62,6%), 70 como clase B (35,4%) y 4 como clase C (2%). La tasa de morbilidad global fue del 12,6% (25 pacientes). Se demostró una asociación significativa entre la escala OS-MRS y la tasa de complicaciones (7,3, 20 y 50%, respectivamente; $p = 0,004$). El bypass gástrico se asociaba a mayor número de complicaciones que la gastrectomía vertical ($p = 0,007$). En el análisis multivariado, la escala OS-MRS y la técnica quirúrgica fueron los únicos factores con valor predictivo.

Conclusiones: La escala OS-MRS es una herramienta útil para predecir el riesgo de complicaciones y puede orientar a la hora de escoger el tipo de cirugía bariátrica.

© 2013 AEC. Publicado por Elsevier España, S.L. Todos los derechos reservados.

Introduction

Laparoscopy has revolutionised the world of bariatric surgery. Studies to date demonstrate a great many advantages of this type of approach in comparison to open surgery.^{1,2} Nevertheless, laparoscopic bariatric surgery continues to be associated with post-operative complications and mortality.

The different degrees of obesity and the comorbidities presented by patients who are to undergo bariatric surgery make it difficult to compare the morbi-mortality rates which appear in literature. Having a validated scale to estimate surgical risk could, on the one hand, offer reliable and individualised information for patients about to undergo obesity surgery and, on the other hand, allow those with a high risk of morbi-mortality to be identified preoperatively, which would enable pre and peri-operative treatment to be optimised and perhaps make it possible to choose the most appropriate surgical procedure for each patient.

Different scales have been prepared to estimate the risk of mortality in an attempt to improve information on patients who are to undergo bariatric surgery. In 2007, DeMaria et al. proposed and validated in a multi-centre study, the obesity surgery mortality risk score (OS-MRS) for patients on whom gastric bypass surgery had been performed.^{3,4} The same scale was used subsequently by Efthimiou⁵ and Thomas⁶ with the same objective. In 2011, Sarela⁷ extended the use of this score to estimate morbidity and applied it to other techniques used in bariatric surgery. Other authors have also proposed their own score systems to predict post-operative morbidity.^{8,9}

The objective of this study was to evaluate the possible use of the OS-MRS score to predict the risk of postoperative

complications in morbidly obese patients treated with two laparoscopic bariatric surgery techniques.

Patients and Methods

A retrospective study was undertaken of a prospective and consecutive series of patients on whom laparoscopic bariatric surgery was performed in the Bariatric and Metabolic Surgery Unit of the *Hospital del Mar* (Barcelona), between May 2008 and July 2012. Two types of bariatric surgery procedures are performed in our centre: laparoscopic vertical gastrectomy (LVG) and laparoscopic gastric bypass (LGB). The preoperative assessment of all the patients was multidisciplinary (Surgery, Endocrinology, Psychiatry, Anaesthesia and Nutrition Departments) and the criteria for inclusion used were as proposed by the National Institute of Health in 1991.¹⁰

LVG was indicated in patients with: (a) a body mass index (BMI) between 35 and 39.9 kg/m² with associated comorbidities; (b) with BMI ≥ 50 kg/m²; (c) in young patients aged between 18 and 25 or (d) patients ≥ 55 years of age. For LGB the criteria were: (a) a BMI of between 40 and 50 kg/m²; (b) age between 25 and 55 and (c) patients with serious gastro-oesophageal reflux disease or Barrett's oesophagus.

The following variables were obtained for all patients: age, gender, preoperative weight, BMI, the risk rate proposed by the American Society of Anesthesiology (ASA), major comorbidities (type 2 diabetes mellitus [DM2], obstructive sleep apnoea syndrome [OSAS], arterial hypertension [AHT], heart disease, dyslipidaemia, increased risk of pulmonary thromboembolism [PTE]), and a detailed description of the complications occurring in the immediate post-operative period. Following

Download English Version:

<https://daneshyari.com/en/article/4254533>

Download Persian Version:

<https://daneshyari.com/article/4254533>

[Daneshyari.com](https://daneshyari.com)