



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

prioritise this procedure over drug therapy in a population in whom almost no studies exist about the former treatment and several investigations do exist concerning the latter.

BH has received travel grants from Novo Nordisk and Aché Pharmaceuticals, has received honoraria for lectures from Novo Nordisk and Eli Lilly, and is on the advisory board for Novo Nordisk and Eli Lilly. MCM has received travel grants from Novo Nordisk, EMS Pharmaceutical, and Eurofarma Pharmaceuticals; and is on the advisory board for Novo Nordisk.

***Bruno Halpern, Marcio C Mancini**
brunohalpern@hotmail.com

Obesity Group, Department of Endocrinology, Hospital das Clinicas Universidade de São Paulo, São Paulo, Brazil (BH, MCM); Department of Epidemiology and Prevention, Brazilian Association for the Study of Obesity, São Paulo, Brazil (BH); and Brazilian Society of Endocrinology and Metabolism, São Paulo, Brazil (MCM)

- 1 Rubino F, Cohen RV, Mingrone G, et al. Bariatric and metabolic surgery during and after the COVID-19 pandemic: DSS recommendations for management of surgical candidates and postoperative patients and prioritisation of access to surgery. *Lancet Diabetes Endocrinol* 2020; **8**: 640–48.
- 2 Halpern B, Mancini MC. Metabolic surgery for the treatment of type 2 diabetes in patients with BMI lower than 35 kg/m²: why caution is still needed. *Obes Rev* 2019; **20**: 633–47.
- 3 Delling L, Karason K, Olbers, et al. Feasibility of bariatric surgery as a strategy for secondary prevention in cardiovascular disease: a report from the Swedish Obese Subjects trial. *J Obes* 2010; **2010**: 102341.
- 4 Pirllet C, Biertho L, Poirier P, et al. Comparison of short and long term cardiovascular outcomes after bariatric surgery in patients with vs without coronary artery disease. *Am J Cardiol* 2020; **125**: 40–47.
- 5 Zelniker TA, Wiviott SD, Raz J, et al. Comparison of the effects of glucagon-like peptide receptor agonists and sodium-glucose cotransporter 2 inhibitors for prevention of major adverse cardiovascular and renal outcomes in type 2 diabetes mellitus. Systematic review and meta-analysis of cardiovascular outcomes trials. *Circulation* 2019; **139**: 2022–31.

We read the article by Francesco Rubino and colleagues with interest.¹ It represents the recommendations of 23 authors on a diverse range of topics around bariatric and metabolic surgery during and after the COVID-19 pandemic, the collation of which is a difficult task. The methodology used to reach this consensus of opinion and recommendations needs to be detailed; we did not come across the

use of any established instruments for this exercise, such as the Delphi or modified Delphi approach.²

The authors very correctly highlight that the remission rate of type 2 diabetes with surgery is higher for patients with shorter diabetes duration.¹ The overarching theme in these recommendations is about prioritising patients who are likely to benefit the most and where delays would be more likely put patients into a more disadvantageous category. We therefore find the authors' recommendation to prioritise patients with diabetes of more than 5 years' duration puzzling and is in direct contradiction to their priority statements.

We would also like to draw the readers' attention to a recent publication by Luigi Angrisani and colleagues,³ which took a different view from Rubino and colleagues. This article was co-authored by the president of International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO), along with the president-elect and at least seven other current or past presidents of IFSO chapters. Angrisani and colleagues state that patients with higher BMI and multiple comorbidities (with uncontrolled type 2 diabetes being one of the main areas of concern) are at risk of life-threatening COVID-19-related complications in the perioperative setting, thus concluding that surgery should be offered to patients who are more likely to recover from a possible infection.³ The eligibility criteria for surgery proposed by Angrisani and colleagues included, among others, BMI below 50 kg/m² and no or controlled comorbidities.³

Considering that obesity is a major risk factor for severe COVID-19 and its related mortality, obesity treatment could offer an opportunity to reduce the burden of COVID-19. Bariatric surgery, which is the most effective treatment in producing sustained, long-term weight loss, came to a standstill globally with the

COVID-19 pandemic. Hence, there is a lot of interest in restarting bariatric surgery safely. The two opposing views we highlight might only add to the confusion in the field. A wider consensus is needed to ensure this life-saving treatment is delivered to patients in a timely manner.

We declare no competing interests.

Vasileios Charalampakis,
Basil J Ammori, Varadarajan Baskar,
Martin Richardson, *Rishi Singhal
singhal_rishi@hotmail.com

Department of General and GI Surgery (VC) and Department of Diabetology and Endocrinology (VB), Warwick Hospital, South Warwickshire NHS Foundation Trust, Warwick, UK (VC); Department of Surgery, Salford Royal Hospital, Manchester, UK (BJA); Department of Bariatric Surgery, Burjeel Hospital, Abu Dhabi, United Arab Emirates (BJA); Department of Bariatric Surgery, Birmingham Heartlands Hospital, University Hospital Birmingham NHS Foundation Trust, Birmingham, UK (MR, RS); and Healthier Weight, Birmingham, UK (RS)

- 1 Rubino F, Cohen RV, Mingrone G, et al. Bariatric and metabolic surgery during and after the COVID-19 pandemic: DSS recommendations for management of surgical candidates and postoperative patients and prioritisation of access to surgery. *Lancet Diabetes Endocrinol*. 2020; **8**: 640–48.
- 2 RAND Corporation. Delphi method. <https://www.rand.org/topics/delphi-method.html> (accessed June 24, 2020).
- 3 Angrisani L, Khidir N, Prager G, et al. How are we going to restart elective bariatric and metabolic surgery after the peak of Covid-19 pandemic? *Surg Res Rep* 2020; **3**: 1–5.

The COVID-19 pandemic has caused serious disruptions to the health-care system and has revealed substantial racial, ethnic, socioeconomic, and other health-care disparities. The role of obesity has also been highlighted, as obesity severity appears to be related to higher rates of hospitalisation and poorer clinical outcomes of COVID-19.¹ Obesity treatment has been hugely affected by the pandemic, leaving millions of children, adolescents, and adults at high risk for worsening comorbidities, with less access to treatment and increased risk for poor outcomes from COVID-19.

We applaud Francesco Rubino and colleagues' recommendations for bariatric and metabolic surgery during and after the COVID-19 pandemic,

published in *The Lancet Diabetes & Endocrinology*.² The attention to detail of resumption of services for individuals with obesity and diabetes are comprehensive and serve as a call to action for this important patient population. However, we were disappointed at the omission of psychosocial factors in their framework, which research suggests impact assessment and decision making for bariatric and metabolic surgery. Surgery teams are interdisciplinary, requiring the expertise of multiple providers, and the necessary role of a mental health provider on a surgical team is well documented.³

Notably, clinics and insurance companies require extensive pre-operative investment by patients to have access to surgery. The individuals who are now experiencing delays in their care have probably been eagerly anticipating needed treatment for their illness for many months. Even under normal circumstances, research indicates that waiting for surgery is anxiety provoking for individuals.⁴ Now there is the additional stress of potential concerns about disruption to insurance coverage because of job loss, worries about risk of exposure to COVID-19, isolation, and lack of social support. Moreover, COVID-19 increases risk for compromised mental health overall,⁵ resulting in another disproportionate burden on those with severe obesity who might already have high rates of psychological concerns. Obesity increases risk for poor physical and mental health outcomes related to COVID-19, and delaying surgery will exacerbate both of these risks, necessitating monitoring by and involvement of both medical and mental health providers.

To complement the proposed framework, we urge that mental health concerns be assessed for those at risk for surgery delays and that such assessments be included in determining who is prioritised as urgent for surgery. Mental health providers play an

important role on surgery teams in assessment, support for psychological concerns, promotion of healthful behaviour change, and adherence to treatment and behaviour change.

We declare no competing interests.

*Melissa Santos, Eleanor Mackey, Bethany Gaffka, Wendy Ward, E Thomaseo Burton

msantos@connecticutchildrens.org

Pediatric Obesity Center, Connecticut Children's, University of Connecticut School of Medicine, Hartford, CT, USA (MS); Division of Psychology, Children's National Hospital, Washington, DC, USA (EM); Division of Pediatric Psychology, CS Mott Children's Hospital, Michigan Medicine, Ann Arbor, MI, USA (BG); Department of Pediatrics, University of Arkansas Medical School, Little Rock, AR, USA (WW); and Department of Pediatrics, College of Medicine, University of Tennessee Health Science Center, Memphis, TN, USA (ETB)

- 1 Simonnet A, Chetboun M, Poissy J, et al. High prevalence of obesity in severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) requiring invasive mechanical ventilation. *Obesity* 2020; published online April 9. <https://doi.org/10.1002/oby.22831>.
- 2 Rubino F, Cohen RV, Mingrone G, et al. Bariatric and metabolic surgery during and after the COVID-19 pandemic: DSS recommendations for management of surgical candidates and postoperative patients and prioritisation of access to surgery. *Lancet Diabetes Endocrinol* 2020; **8**: 640–48.
- 3 Mechanick JI, Youdim A, Jones DB, et al. Clinical practice guidelines for the perioperative nutritional, metabolic, and nonsurgical support of the bariatric surgery patient—2013 update: cosponsored by American Association of Clinical Endocrinologists, the Obesity Society, and American Society for Metabolic & Bariatric Surgery. *Surg Obes Relat Dis* 2013; **9**: 159–91.
- 4 Padwal RS, Majumdar SR, Klarenbach S, et al. Health status, quality of life, and satisfaction of patients awaiting multidisciplinary bariatric care. *BMC Health Serv Res* 2012; **12**: 139.
- 5 Holmes EA, O'Connor RC, Perry VH, et al. Multidisciplinary research priorities for the COVID-19 pandemic: a call for action for mental health science. *Lancet Psychiatry* 2020; **7**: 547–60.

Authors' reply

We sincerely appreciate the comments by Bruno Halpern and Marcio Mancini about our Personal View on bariatric and metabolic surgery during and after the COVID-19 pandemic.¹ We take this opportunity to clarify the objectives of the Diabetes Surgery Summit (DSS) recommendations regarding the prioritisation of patients who are already candidates for bariatric or metabolic surgery. The authors

assert that individuals with diabetes and established cardiovascular disease should be treated with SGLT2 inhibitors or glucagon-like peptide-1 receptor agonists instead of bariatric or metabolic surgery, because the former have been shown in randomised controlled trials to reduce cardiovascular disease, whereas there is less evidence for that with bariatric and metabolic surgery in this population. However, our current treatment algorithm is not designed to help to decide between surgical and pharmaceutical diabetes therapies. Rather, it prioritises the timing of operations among patients who are eligible for surgery and have already decided to undergo it, presumably because medical or lifestyle interventions have proven insufficient.

We heartily agree that a secondary prevention cardiovascular outcomes randomised controlled trial on surgical versus medical treatments for obesity and diabetes is needed, and we are attempting to actualise this. Nevertheless, it is clear that tight glycaemic control reduces diabetes microvascular complications and, in the long term, macrovascular events,² as well as that bariatric and metabolic surgery almost universally improves hyperglycaemia, causing diabetes remission in most cases.³ Thus, it seems highly likely that such operations reduce cardiovascular disease. Numerous excellent observational studies have reported this, and 29 independent investigations have universally found bariatric and metabolic surgery to be associated with reduced mortality among patients with and without established cardiovascular disease.⁴ We are aware of evidence currently under review showing impressive reductions in major adverse cardiovascular events after bariatric and metabolic surgery, specifically among patients with pre-existing cardiovascular disease. In a study presented in 2018, bariatric and metabolic surgery has proven to confer significant protective effects on patients who, after surgery, end