

## What are people's attitudes towards the safety and efficacy of bariatric surgery for the treatment of type 2 diabetes?

*In this section, a panel of multidisciplinary team members give their opinions on a recently published paper. In this issue, we focus on the attitudes that individuals with type 2 diabetes have about the safety and efficacy of bariatric surgery.*

### Attitudes about the safety and efficacy of bariatric surgery among patients with type 2 diabetes and a body mass index of 30–40 kg/m<sup>2</sup>

Sarwer DB, Ritter S, Wadden TA et al (2013) *Surg Obes Relat Dis* 9: 630–5

#### Surg Obes Relat Dis

#### Perceptions of bariatric surgery for T2D treatment

- 1 The aim of this study was to investigate the attitudes towards, and beliefs about, bariatric surgery among individuals with T2D and a BMI of 30–40 kg/m<sup>2</sup>.
- 2 Adults who are part of the US Pennsylvania Clinical and Administrative Research Database (PICARD) were selected and invited to participate in a survey by post.
- 3 The survey was specially designed by the authors and included 40 questions. It asked the participants what their perceptions were about the safety of bariatric surgery as a treatment for obesity

and T2D, and their willingness to accept it as a treatment option and to be randomly assigned to receive surgery within a clinical trial.

4 In total, 25.3% of invitees responded, and their median age was 58 years. The only baseline characteristic where there was a significant difference between responders and non-responders was for BMI: in total, 37% of non-responders and 19.5% of responders had a BMI between 35 and 39.9 kg/m<sup>2</sup> ( $P < 0.0001$ ).

5 Overall, 20% of those surveyed had a positive opinion of bariatric surgery, and 14.5% considered it “very safe” or “safe”.

6 The beliefs of the effectiveness of bariatric surgery among participants were mixed: 34.7% considered surgery “very effective” or “effective”; 55.6% reported neutral opinions; and 9.7% considered surgery was “ineffective” or “very ineffective”.

7 Two-thirds of respondents thought the risk of complications from bariatric surgery were moderate to high, and a similar number of people believed the risk of death following bariatric surgery was also moderate to high.

8 Finally, less than 20% of those surveyed said they would be willing to be randomly assigned to undergo a surgical procedure for the treatment of diabetes or obesity.

9 One limitation of the study was the low number of responders; those that responded may have been biased towards more negative responses than those that did not respond.

10 The authors suggest more must be done to educate people on the safety and efficacy of bariatric surgery as a treatment for T2D, especially for individuals in the lower BMI range for obesity (30–35 kg/m<sup>2</sup>).



#### Roy Taylor

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Some papers should cause a questioning eyebrow to rise. This is one. The study was designed to evaluate the attitudes of people with a BMI between 30 and 40 kg/m<sup>2</sup> on the safety and efficacy of bariatric surgery for treatment of type 2 diabetes. In a nutshell, people were unkeen on surgery and the authors concluded that more education was required to change their perceptions.

The authors set out to gather opinion from a group of people with a clearly defined range of BMI. However, the median BMI of the respondents was only 32.9 kg/m<sup>2</sup> (the upper quartile was 35.2 kg/m<sup>2</sup>). Most of these individuals might regard themselves as being amongst the slimmer people in their community. Pennsylvania, USA, which was the state studied, has a very similar proportion of overweight and obese adults compared with the

USA as a whole (65.8% versus 63.8% respectively in 2010 [Warren General Hospital, 2013]). If the authors had carried out the survey on people with a BMI over 35 kg/m<sup>2</sup>, then they may have obtained rather different responses.

Participants were identified from a state-wide research database. It is not clear on what grounds an individual would be included in this database, which appears to be too small to be comprehensive. Even so, only 25% of the survey recipients completed the survey and selection bias must have operated.

Despite these concerns there are several points of interest within the data set. One third of this group thought that bariatric surgery was effective in treating obesity. However, almost 40% thought that it was unsafe or very unsafe. Also, 70% thought that the likelihood of complications was moderate or high for a gastric bypass surgery, whereas the equivalent figure

for a gastric band procedure was 63%. These data reflect the common observation that perceptions of effectiveness and the problems associated with surgical procedures are not widely understood. It has to be said that one in 20 people surveyed thought that the likelihood of complications from diet and exercise was either moderate or high. Steering a course between Scylla and Charybdis has always been tricky.

The authors point out that physicians have a more positive attitude to

bariatric surgery. This may well be true. However, they go on to suggest that the “well tolerated and effective” nature of bariatric surgery should be more widely advertised, an overenthusiastic conclusion that needs to be tempered by carefully collected data.

The BMIs of the authors are not disclosed. ■

Warren General Hospital (2013) Available at: <http://bit.ly/1nNp4mS> (accessed 06.02.14)



## Tristan Richardson

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**T**his paper should engender much debate. There is little argument over the benefits of weight loss surgery for people who are in the very overweight. Bariatric surgical intervention is here to stay in that regard. There is still a debate to be had over its role in the less obese population (Keidar, 2011).

Notwithstanding the quality of the data this postal questionnaire study presents (with the expected 25% response rate), and the errors in the data representation (were there 128 or 130 responders to the questionnaire? – it is unclear), there is a clear skewing of data from participants who are less obese. The mean BMI of responders was 32.9 kg/m<sup>2</sup>, with 80% of responders having a BMI <35 kg/m<sup>2</sup>. The mean BMI in the USA is 29 kg/m<sup>2</sup>, and so this paper may be reflecting what is the “average man or woman in the street’s” attitude to bariatric surgical intervention. Therefore, taking into account the shaky scientific grounds upon which this questionnaire study is based, its forthright conclusions are tenuous to say the least.

Finally, it is important to keep in mind the conflicts of interests cited by the authors when analysing the results of this study. Affiliations to surgical companies who operate in weight loss surgery may suggest the results are already coming from a pro-bariatric surgery perspective, and especially for people who have a lower BMI and are less obese.

Is it a surprise to be told that people with lower BMI (which do not affect their ability to play with their children and buy normal clothes) have not reached a point of desperation where the balance of pros and cons tips in favour of surgery. When a person’s significantly elevated BMI adversely impacts on activities of daily living, then that person becomes more likely

to favour an intervention that is more radical. This population will also have tried every intervention known to mankind in order to lose weight, which will have been unsuccessful. Another tipping point is that any perceived stigma of surgery is far outweighed by the stigma of being morbidly obese. Where that particular tipping point is is different for everyone, but this study would suggest it is not at a BMI of 32.9 kg/m<sup>2</sup>, but somewhere higher.

Does this paper add to the knowledge base in the UK? Bariatric surgery is an under-used resource among people who are morbidly obese, let alone the “less obese”, despite it being a successful intervention both in the UK and elsewhere. Will this paper change this? No. There does need to be a sea change in attitude to the use of bariatric intervention, but increasing a focus on those (study) individuals with a BMI less than 33 kg/m<sup>2</sup> will not be successful. The data supporting the reversal of diabetes in individuals that are less overweight are unclear (Keidar, 2011), so despite a dearth of information in this field, this paper will not, in my view, add quality evidence and sway opinion in the UK.

Increased “buy-in” to bariatric surgery should not concentrate on the numerous people who are moderately overweight, where the BMI is close to the norm of that population and where the risks of a surgical procedure are deemed excessive. Instead, it should focus on where bariatric surgery is clearly beneficial – in the morbidly obese. As healthcare professionals, we must also win the argument in society, public health, and primary and secondary care where free attitudes abound about people who are morbidly obese simply having to try harder... ■

Keidar A (2011) Bariatric surgery for type 2 diabetes reversal: the risks. *Diabetes Care* 34(Suppl 2): S361–6



## Jonathan Pinkney

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**O**ver 10 years ago, an American surgeon suggested to me that the superiority of bariatric surgery over other medical treatments of type 2 diabetes was so blindingly obvious that comparative research was superfluous. I was puzzled by his conviction and was sceptical that even a small fraction of individuals attending my clinic would be queuing

for bariatric surgery. In the interim, the literature supporting bariatric surgery has grown steadily and the American Diabetes Association ([ADA], 2014) and International Diabetes Federation ([IDF]; Dixon et al, 2011) have rightly supported bariatric surgery as one treatment option, although both organisations clearly recognise its limitations and the need for further research. Recent controlled studies have shown, as expected, that bariatric

surgery has superior short-term benefits over medical diabetes treatments (Mingrone et al, 2012; Schauer et al, 2012). The outcomes of these studies were never in doubt and were in line with existing literature. But what was the question?

Furthermore, since the metabolic benefits of bariatric surgery are not limited to those with high BMI, the concept of offering surgery to virtually anyone with type 2 diabetes is a form of poorly evidenced mission creep.

Without doubt, bariatric surgery is a potent treatment for type 2 diabetes. However, while diabetes is a burgeoning worldwide problem, most people with type 2 diabetes are elderly and the wisdom of bariatric surgery is less evident. Furthermore, around 40% of type 2 diabetes either fails to respond to bariatric surgery or relapses (Chikunguwo et al, 2010; DiGiorgi et al 2010).

Moreover, while the safety of modern bariatric surgery itself is an achievement, it is not risk free. The National Confidential Enquiry into Patient Outcome and Death (NCEPOD) report (2012) also illustrated how many non-surgical aspects of safety remain to be improved in the UK. While withdrawal of diabetes-related therapies after surgery is also welcome, continuation of metformin and statins is usually appropriate, and vitamin, mineral and trace element replacement often required. Patients may be discharged from diabetes clinics after a few years, but still require long-term medical and nutritional follow-up (ADA, 2014).

Over the years, many people with type 2 diabetes have told me that the freedom to eat is an important consideration, and a constant critical focus

on diet and obesity is an onerous burden. Yet, what treatment can possibly curtail dietary freedom more than bariatric surgery? The treatment that pleases the doctor will not necessarily appeal to the patient whose consent is sought. The paper by David Sarwar and colleagues is a timely reminder that it will be informed individuals, not doctors, who will decide what interventions are acceptable. Ironically, the authors suggest that patient education will rectify this difference of opinion. Presumably the 75% who failed to respond to the survey might be even less enthusiastic? Time will tell. Bariatric surgery, at least in its current form, is clearly a very valuable treatment advance for some people, appealing to those for whom the benefits clearly outweigh the risks and stigma, and currently this still appears to be the minority of people with type 2 diabetes. ■

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