

## EDITORIAL

## The Asian perspective to the International Diabetes Federation's position statement on bariatric surgery for diabetes

Diabetes is becoming one of the largest epidemics in the history of the human race. Genetic factors and higher visceral fat percentages, along with changes to dietary habits secondary to the recent economic boom, have resulted in Asia becoming the diabetic capital of the world. The projected statistics are alarming. By 2030, one-third of the world's diabetic population would be from India and China (1). One in five Indians is projected to have diabetes coexistent with hypertension (2).

The word "diabetes" is derived from the Greek word *diabainein*. It was first described by the Greek physician Aretaeus about 2000 years ago. For thousands of years, diabetes remained a disease of devastation and death, with no treatment modality that could control the progression of this deadly disease. This all changed in 1921, when Frederick Banting and Charles Best discovered insulin. Since then, it has been a long and arduous journey for researchers as they continue their pursuit of a cure.

Another historic event in the treatment of diabetes occurred in 1995, when oral biguanide metformin was approved by the US FDA. Also, this was the year in which Pories *et al.* published their landmark study in the *Annals of Surgery*, "Who would have thought it? An operation proves to be the most effective therapy for adult onset diabetes" (3). As of 2012, metformin is one of the two oral antidiabetic drugs on the World Health Organization Model List of Essential Medicines, and it remains the most widely prescribed antidiabetic agent in the world.

While antidiabetic drug treatments remain popular, the growth of bariatric/metabolic surgery has been slow despite the proven benefits of surgery. It was only in 2009 that the American Diabetes Association officially recognized it as an effective treatment option for obese type 2 diabetics. However, there had already been a steady stream of published data suggesting that bariatric/metabolic surgery had a significant positive impact on hyperglycemia, dyslipidemia and hypertension in the morbidly obese. The very idea that surgery could be a treatment option for diabetes was considered preposterous by most endocrinologists and physicians initially.

Type 2 diabetes is a complex, chronic, progressive and costly disease. Over the years, there has been a steady influx of newer drugs for its management. Lifestyle intervention and oral hypoglycemic agents, as well as insulin with the newer glucagon-like peptide-1 analog, aim to control glycemia to reduce cardiovascular complications. A review of data from the Third National Health and Nutrition Examination Survey (1988–1994) and the National Health and Nutrition Examination Survey (1999–2000) of the US population revealed that of the patients reviewed, only 7.3% adults with diabetes attained the American Diabetes Association's recommended goals of HbA1c levels <7%, blood pressure <130/80 mmHg and a total cholesterol level <200 mg/dL (4).

As the disease progresses most patients develop microvascular and macrovascular complications, leading to increased cardiovascular risk, retinopathy, neuropathy, nephropathy and peripheral vascular disease. Blindness, dialysis, renal transplants, myocardial infarctions, lower limb amputations and other complications not only lead to increased morbidity but also augment the cost of treatment.

With an exploding population that is multiplying every second, does Asia have the resources to tackle the burden of diabetes and its aftereffects?

Bariatric/metabolic surgery gives hope for a life free of diabetes. Studies have proven that it not only improves life expectancy, but it also decreases the overall morbidity associated with long-term complications of diabetes. Thus, it is the more cost effective option in the long term.

The International Diabetes Federation is an international group that represents a sizeable number of diabetologists from around the globe. The International Diabetes Federation decided to take the lead and form a task force that includes endocrinologists, diabetologists, public health experts and surgeons from all parts of the world. A meeting was held in December 2010 with the idea of formulating a position statement that would define the role of bariatric/metabolic surgery in the treatment of diabetes and that would serve as a guideline to health professionals involved in the field of diabetes care (5).

The goals of the meeting were: (i) to develop practical recommendations for clinicians for selecting patients for bariatric surgery; (ii) to identify barriers to surgical access; (iii) to suggest health policy changes to ensure equitable access to surgery when indicated; and (iv) to identify research priorities.

The objective was to standardize the field for both bariatric surgeons and endocrinologists, dispel some of the myths surrounding the procedures and increase the acceptance of surgery among the general public and, more specifically, among diabetologists. The intention was to establish guidelines to enhance the safety and efficacy of bariatric/metabolic surgery for indicated patients. Despite not offering a systematic scientific review, the statement took into account all guidelines from different geographical regions of the world, along with published scientific literature. It addressed the concerns of most diabetologists regarding bariatric surgery and was a compilation of opinions from all the experts present.

### Salient features of the statement

The statement stressed the need for a multidisciplinary team to support patients in the preoperative and postoperative periods. Apart from the surgeon, the endocrinologist, nutritionist and psychologist should form important pillars of any bariatric program. The statement also emphasized the use of standardized procedures with low-risk and lower long-term morbidities. It underlined that bariatric surgery was safe and the mortality associated with surgery was the same as with any other surgery such as laparoscopic cholecystectomy or hip replacement surgery.

The statement recommends incorporating bariatric surgery in the treatment algorithm for obese diabetic patients. It also indicates that surgery should be introduced as an early option in the course of treatment of an uncontrolled obese diabetic when existing medical therapies fail to achieve acceptable targets. Surgery should not necessarily be the last resort.

For patients with a BMI between 30 and 35, the statement recommends that surgery should be considered as an alternative treatment option when diabetes cannot be adequately controlled by optimal medical regimen, especially in the presence of other major cardiovascular disease risk factors. It also highlights that for Asians and certain other high-risk ethnic populations, the BMI cutoff point may be lowered by 2.5 Kg/m<sup>2</sup>.

The statement acknowledges the lack of high-quality, long-term randomized studies showing the efficacy of the surgery, and it stresses the need for better studies along with the formation of nationwide registries for bariatric surgery.

Prosperity is not a heap of assets. Rising gross domestic products are only half of the Asian growth story. In the long run, it is our health that is going to determine efficacy and productivity. If we continue to ignore the problem, we are bound to slip from the economic growth league. This statement comes as a light at the end of the tunnel. It gives us an opportunity to limit the progression of this devastating disease. In the years to come, we hope that India and China will have health charts that mirror their growing gross domestic products.

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