

## Editorial

# Shifting the Paradigm: From Bariatric Surgery to Metabolic Surgery

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Obesity is now a global phenomena. The term Globesity and Diabesity is now frequently used to denominate the sheer impact it has around the world. It is estimated that around 600 million and accounting to 13% of the world's population are in the obese category and it is predicted that the incidence of diabetes would increased by 22% and 69% in the developed and developing countries respectively in the next 2 decades (1). The current obesity phenomena has a significant impact on the health related issue such as risk of premature death and complications in particular metabolic syndrome (2). Uncontrolled Diabetes Mellitus may result in serious microvascular, macrovascular complications and premature deaths, which can be significantly reversed even by a 1% drop of HBA1c (3). Currently, the stepwise management of obesity are dietary modification, exercise and pharmacotherapy (4). However, the outcome of conservative treatment are poor in the long term, and therefore, surgery would be the best option, resulting in a significant, sustainable weight loss, improvement of quality of life and potentially reversal of co-morbidities, in particular its metabolic components (4,5). Currently, the indication for surgery are BMI (Body Mass Index) of more than 40 without co-morbidities and BMI of more than 35 in patients with co-morbidities which has been adopted since the early 1990s. However, the adequacy of BMI as a stand-alone criteria for surgery is highly contentious as BMI does not always predict the benefits from surgery in respect to metabolic, cardio-vascular and mortality (6). Furthermore, there are significant differences in the metabolic risk in obese populations governed by geographical and race distribution, particularly in Asian population, where the risk of visceral fat

accumulation is higher in comparison to its Caucasian counterpart and thus increasing the risk of diabetes and other metabolic illness (7). The International Federation of Surgery for obesity-Asia Pacific chapter, released a consensus statement in 2011 agreeing that the indications for surgery be changed in light of the higher risk in obese Asian patients resulting the goal post being lowered, where the accepted indication for bariatric surgery are BMI of 37.5 without co-morbidities, BMI of 32.5 with co-morbidities and in exceptional circumstances where exhaustive conservative and medical treatment has failed, surgery for BMI of 30 and above can be offered (8). Since the inception of bariatric surgery in the late 1950s, the technique and type of surgery has revolutionised tremendously. There are many different variants of bariatric surgery which is categorized as purely restrictive such as gastric band, gastric plication and sleeve gastrectomy; combined restrictive and malabsorptive such as gastric bypass and finally the pure malabsorptive procedures such as Biliopancreatic diversion and Duodenal switch. Over the past 10 years modification to these established procedures has been developed such as the minigastric bypass, single anastomosis duodenal jejunal bypass with sleeve gastrectomy and ileal interposition. The idea of these modifications is to reduce the side-effect profile with optimum weight loss and enhance the amelioration of diabetes and other metabolic derangement.

The definition of bariatric surgery and metabolic surgery has been interchangeable overtime. It has been accepted that bariatric surgery is considered when the aim of weight reduction take precedent, whereas metabolic surgery is considered when the aim is

primarily to improve co-morbidities in particular, metabolic diseases in addition to weight loss. The difficulty in separating both of these terms lead to the more appropriate term of Bariatric-Metabolic Surgery (BMS). One of the compelling example that both surgery works hand in hand is shown in the study by Booth et al., which surgery in a non-diabetic obese population followed up to 7 years results in an 80% risk reduction of developing diabetes mellitus compared to conservative treatment (9).

There are many compelling level one evidence that support the advantages of BMS especially in patients with BMI of more than 35 (5), however as the goal post for surgery in the Asian population has been reduced to below BMI of 35, the need for clinical evidence to justify the lowered indication is paramount. To date there are at least 7 level one randomised controlled trials and several other level 2 and 3 evidence that support the efficacy and safety of BMS in BMI (30-35 kg/m<sup>2</sup>) (10).

BMS will continue to evolve with time as the incidence of obesity and diabetes continues to rise despite the advancement of medical treatment. It is essential that the global management for these patients are dealt in a multi-disciplinary manner involving surgeon, endocrinologist, dietician, physiotherapist, specialist physician and psychologist to name a few. Rigorous pre-operative work-up and ultimately the right patient selection is vital in order to have the best post operative outcome in particular in long-term durable weight lost and most importantly the resolution of co-morbidities.

## References

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