Current status of bariatric/metabolic surgery: ADSS data

Wei-Jei Lee$^{1,2}$

$^1$Department of Surgery, Min-Sheng General Hospital, Taoyuan, Taiwan
$^2$Department of Surgery, National Taiwan University, Taipei, Taiwan

Obesity and associated type 2 diabetes mellitus (T2DM) is becoming a serious medical issue worldwide. Bariatric surgery has been shown to be the most effective and durable therapy for the treatment of morbidly obese patients. The advent of bariatric surgery to treat T2DM morbidly obese patients offers a new paradigm in T2DM therapy. Bariatric surgery has been shown to confer long-term weight loss and glycemic control in obese diabetics. ‘Metabolic surgery’ has been proposed as a treatment for T2DM in view of the relatively high remission rates with bariatric surgery (range 36% to 93%) compared to medical therapy alone. Increasing data indicates bariatric surgery, played as metabolic surgery, is an effective and novel therapy for not well controlled obese T2DM patients. Because Asian people had a higher incidence of T2DM and tend to have an earlier onset T2DM than Caucasian, Asian surgeons had more experience in using metabolic surgery to treat T2DM in low BMI patients. Subjects are recruited as part of a multi-institutional ADSS group consisting of 11 centers in 6 countries, including Hong Kong, India, Japan, Korea, Singapore and Taiwan. There were a total of 4380 subjects registered in this study between September 1997 and December 2015. This report was performed to examine the recent advancement of metabolic surgery in Asia can be classified into 4 major fields. 1) Improvement of safety: Recent advancement in laparoscopic surgery has made this minimal invasive surgery more than ten times safe than a decade ago. The safety profile of laparoscopic bariatric/metabolic surgery is compatible with laparoscopic cholecystectomy now. 2) New metabolic surgery: Laparoscopic sleeve gastrectomy (LSG) is becoming the leading bariatric surgery because of its simplexes and efficacy. Other new procedures, such as single anastomosis (mini) gastric bypass and Duodeno-jejunal bypass with sleeve gastrectomy have all been accepted as treatment modalities for the bariatric/metabolic surgery. 3) Mechanism of metabolic surgery: Restriction is the most important mechanism for bariatric surgery. Weight regain after bariatric surgery is usually associated with loss of restriction. Recent studies demonstrated that gut hormone, microbiota and bile acid change after bariatric surgery may play an important role in durable weight loss as well as in T2DM remission. However, weight loss is still the cornerstone of T2DM remission after metabolic surgery. 4) Patients selection: Patients who may benefit most from bariatric surgery was found to be patients with insulin resistance. For T2DM treatment, the indication has been set to not well controlled (HbA1c > 7.5%) with their BMI > 27.5 Kg/m$^2$ in Asian. A novel diabetes surgical score, ABCD score, is a simple system for predicting the success of surgical therapy for T2DM.
Evidence and Economics of Bariatric Metabolic surgery

J.B. Dixon*

Department of Clinical Obesity Research, Baker IDI Heart and Diabetes Institute, Melbourne, Australia

Bariatric-metabolic (BM) surgery as a treatment for type 2 diabetes (T2DM) has developed a sound evidence base this century. The progressing obesity-diabetes epidemic, our understanding of the pathogenesis of type 2 diabetes and need for a range of highly effective therapies have led to a focus on BM surgery.

It is now clear that alterations to the GI tract through BM surgery generate a range of neural and humeral signals that provide highly significant sustained weight loss through a resetting of energy balance. Simultaneously some of these pathways appear to generate an additional non-weight loss benefit for the management of T2DM. The contribution of weight loss versus non-weight loss effects to the long-term efficacy of surgery is unknown.

The Swedish Obesity Subjects study has provided evidence of the sustained efficacy of BM surgery in preventing and managing T2DM. There are now many randomized controlled trials demonstrating the superiority of BM surgery to conventional medical therapy in achieving excellent glycaemic control and often many years of diabetes remission.

This century we have seen a major change in the delivery and safety of BM surgery. Almost all procedures are now performed laparoscopically and this change has been accompanied by systematic improvements in the training, delivery and monitoring of BM surgical procedures. As a result we have seen shorter hospital stays and major reduction in perioperative morbidity and mortality.

The health economics of BM surgery is also very favorable. Managing T2DM and its complications is associated with great personal, health sector and broader societal cost. All studies to date have found BM surgery to be a cost effective health intervention for the management of obesity and its complications. The benefits for obese patients with T2DM have been extremely favorable and some analyses find it to be dominant (cost saving). It is very hard to go past a safe, effective therapy that will probably provide a return on investment to the health sector before considering productivity benefits. Yet surgery is rarely performed as a treatment for T2DM in patients with obesity. Why? Consensus from diabetes societies has been developed. For many of our patients BM surgery is recommended. How do we make it happen?