

CASE REPORT

The Miracle Weight Loss in Primary Care?

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ABSTRACT

This case report illustrates how a primary care physician managed a 60-year-old woman with severe obesity, uncontrolled diabetes mellitus, and low self-esteem for many years. Through a primary care physician, bariatric surgery is recommended for patients with severe obesity, which is then co-managed in a tertiary hospital through a multidisciplinary team. Primary care physicians are on the front lines when treating patients with severe obesity. A number of studies have shown that primary care physicians have low success rates in counselling and managing patients with severe obesity.^(1,2) There is also a debate about bariatric surgery being unsuitable for the elderly age. It is crucial to intervene early to prevent obesity progression and its complications. Clinical inertia is one factor that hinders patients with severe obesity. Therefore, it is essential to address the problem of severe obesity early and should not miss the opportunity to counsel the treatment options and refer these patients to bariatric surgery if indicated. Primary care physicians are also crucial in providing continuity of care after bariatric surgery.

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INTRODUCTION

According to the National Health Morbidity Survey 2019, the obesity rate in Malaysia has significantly increased over the past decade, from 43.1% in 2006 to 50.1% in 2019. There are 5.6 million overweight people and 3.3 million obese adults. Obesity has also been identified as a legitimate threat to health. Surgical intervention for severe obesity is bariatric surgery. The treatment leads to substantial weight loss, comorbidity resolution, and improved quality of life. In Malaysia, however, only less than 1% of adults with severe obesity undergo bariatric surgery annually⁽³⁾. Bariatric surgery referrals are low due to contextual factors such as the health system, clinicians, community, and individual factors⁽⁴⁾. Primary care physicians reported difficulties addressing and treating severe obesity among their patients in previous studies^(1,2). The case presented here illustrates how a primary care physician managed an elderly patient suffering from severe obesity, metabolic syndrome, and low self-esteem through coordination of care with a multidisciplinary team at a tertiary hospital.

CASE REPORT

A 60-year-old woman with uncontrolled diabetes and

hypertension was referred to a primary care physician by a private clinic. On further history, she has suffered from weight gain for many years and could not carry on with her daily routine because of her BMI of 40kg/m². She has tried to lose weight several times after being prescribed a diet and exercise plan by doctors, but it hasn't worked. She had suffered from childhood obesity since she was 12 years old, when she weighed 60 kg and was called the giant child in the class. Her weight has continued to increase throughout her life. She gained approximately eight kilograms during middle age. At the beginning of her career, she weighed 94.0 kg. After working shifts in a factory, she gained much weight, eventually weighing 120 kg at 52 years old. She ate junk food for supper and high-carbohydrate dinners during the night shift to stay awake. Having led an unhealthy lifestyle, she developed hypertension and diabetes due to obesity at 50 years old. As shown in Figure 1, the patient was seen for the first time at the primary care clinic on the day of her consultation.

On examination, her waist circumference was 140 cm, her weight was 91.4 kg, and her height was 152 cm (BMI 40 kg/m²). Vitals were normal. She had no abnormal findings on the respiratory, cardiovascular, or abdominal examinations. On routine investigation, she had an HbA1c of 12.7% and fasting blood sugar of 11mmol/L. Her fasting serum lipids were high in Total Cholesterol (5.8mmol/l), LDL (3.6mmol/l), and TG (2.2mmol/L). Her DASS screening questionnaire showed mild stress, depression, and moderate anxiety. Her



Figure 1: Patient was seen for the first time at the primary care clinic on the day of her consultation (Picture Pre-Op).

problem lists included severe obesity, poorly controlled diabetes, hypertension, newly diagnosed dyslipidemia, and low self-esteem. Based on her fasting lipid profile and high cardiovascular risk, she has been prescribed statin, dual oral hypoglycemic agents, and added basal insulin. She was referred to a dietician as well. Figure 2 summarizes the patient’s pre-op and post-op progress timelines.

Regarding her severe obesity, the primary care physician discussed the treatment options for this condition, including lifestyle modification, medications, and the benefits and risks of bariatric surgery. She had never heard of surgery as a treatment option in the past. However, the bariatric information was too massive and overwhelming for her. Thus, she wanted to involve her family members in the discussion. For better understand, the primary care physician arranged a family conference with the patient two weeks later to explain the indications, bariatric surgery procedures, costs, benefits, and potential complications. After the bariatric surgery, she must comply with the postoperative diet plan and be informed of the possible weight gain. Therefore, she must comply with a lifelong follow-up to monitor her progress. The counselling and discussion took about an hour to clear up doubts and misconceptions about bariatric surgery. After thoughtful consideration, they decided on bariatric surgery. Then, she was referred

to a bariatric surgeon for a Laparoscopic Sleeve Gastrectomy. Her operation was successful. After two days of observation in the ward, she was discharged with a diet plan of 800 to 1000 kcal per day and the surgeon withheld the insulin.

Two weeks following her bariatric surgery, she returned to the primary care clinic. Her weight had decreased to 82.6 kg (BMI 36kg/m²), and she had a waist circumference of 132cm. After her primary care physician reviewed her home blood glucose and blood pressure monitoring which were normal toward a lowish average, her primary care physician withdrew one of the two oral hypoglycaemic medications. Her antihypertensive medication was reduced to one. In addition, she was advised to monitor her blood pressure and blood glucose at home and monitor her hypoglycaemia symptoms and compliance with her postoperative diet plan. A follow-up visit was scheduled every two weeks to monitor her progress. At each follow-up, she lost weight and reduced her waist circumference (Figure 3).



Figure 3: Following a two-month postoperative follow-up, the patient appeared to be doing well.

A month later, she reduced her weight to 76.7kg (BMI 33kg/m²), and her waist circumference was 118cm. She has experienced a noticeable improvement in her ability to perform her daily activities as she was able to do some household chores and light exercises now compared to previously. A month after her bariatric surgery, routine blood investigations were repeated. Her fasting blood sugar level has improved from 11mmol/l

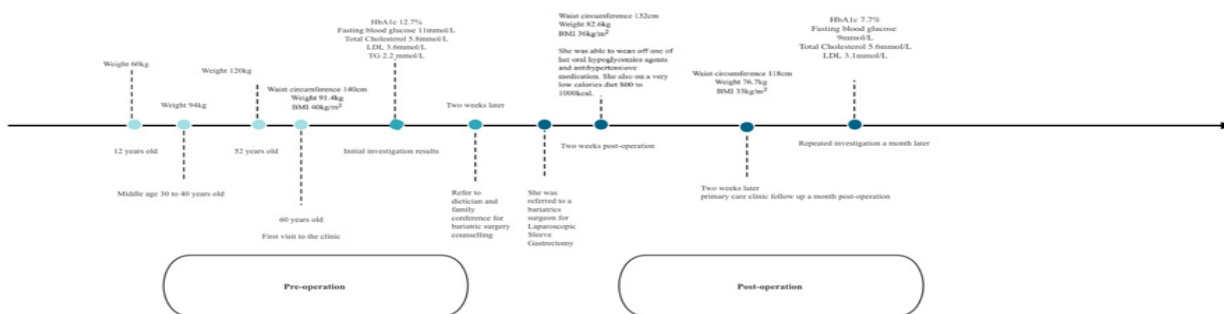


Figure 2: Pre-operation and post-operation progress timeline for the patient.

to 9mmol/l, and her HbA1c has dropped from 12.7% to 7.7%. Also, her lipid profile has improved slightly, as measured by her total cholesterol (5.6mmol/L) and LDL (3.10mmol/L). Folate and Vitamin B12 were taken, and a normal baseline. She was also referred to physiotherapy to increase her muscle strength and coordination. She will also continue her follow up with her primary care physician for long-term care to implement a healthy behaviour modification in her lifestyle.

As a result of her severe obesity and the age at which it took place, she was pleasantly surprised to learn that bariatric surgery was an option. She was thrilled with her weight loss and felt more physically active following her bariatric surgery and the improvement in her chronic diseases.

DISCUSSION

Obesity management reduces and prevents cardiovascular disease. Clinical inertia occurs when healthcare professionals fail to initiate or intensify treatment despite clear indications and recognising the need to do so (5). The same behaviour has also been referred to as therapeutic inertia, physician inertia, and diagnostic inertia (4). The four fundamental factors that lead to clinical inertia in healthcare providers are ignorance of evidence based guidelines, poor clinical judgment, inability to recognize patients' preferences, and an inability to make appropriate clinical decisions. Patients with obesity are also likely to experience poor patient-physician communication; some studies have shown that physicians perceive such patients as non-compliant, indifferent, and unworthy of their time. Researchers found that most healthcare providers overestimated education and lifestyle modifications as effective treatments for obese patients. Weight-loss treatment should be preceded by a comprehensive case history that addresses specific concerns. Often, healthcare providers perceive that bariatric surgery is not recommended for elderly patients due to their frail age and the surgical risks are high. Bariatric surgery has the same benefits for people over 65 and younger than 65, but older people have higher risks. The risks of surgery should be weighed against obesity-related disabilities.

Doctors and their patients must communicate well when discussing obesity and treatment options. Ineffective communication between doctors and patients has several consequences. It affects patient care, delays treatment efficiency, and results in disagreements. Making informed decisions requires more detailed information. Shared decision-making is not intended to substitute medical advice by suggesting, inciting, or urging the patient. Patients and their doctors can jointly make better decisions when informed, and value-based decisions are made. Most decisions need family input. It is important to involve the family member in

counselling to support shared decision-making. Bariatric surgery is indicated when lifestyle and pharmacological treatments have failed in obese patients (3). To date, Malaysia Consensus on patients and procedure selection for bariatric and metabolic surgery is indicated in Figure 4

Indication for bariatric and metabolic surgery:

<p>1) Morbid obesity without any comorbidities: i. Bariatric surgery should be considered to treat obesity in suitable patients with BMI \geq 37.5 kg/m² who fulfil the selection criteria.</p>
<p>2) Morbid obesity with metabolic syndrome: i. The surgical approach may be considered a nonprimary alternative to treat obesity in suitable patients with BMI \geq 32.5kg/m² with metabolic syndrome or cardiovascular risk following inadequate weight loss by medical therapy and lifestyle modifications.</p>
<p>3) Low BMI with or without comorbidities: i. Any surgery for metabolic syndrome or obesity-related comorbidity in patients with a BMI \leq 32.5kg/m² should not be routine clinical practice and should be strictly performed only under a clinical study protocol with informed consent from the patient and prior approval from an ethics committee.</p>
<p>4) Age restriction: i. Bariatric surgery is generally recommended for patients between 18 and 65 years old.</p>
<p>5) Special circumstances: i. Upon consultation with a physician, paediatrician, orthopaedic surgeon, clinical psychologist, or surgeon, bariatric surgery may be performed on morbidly obese adolescent patients provided they have attained the physiological bone maturity consistent with Tanner stage Four.</p>

Selection Criteria for Bariatric Surgery Patients who fulfil the indications above should satisfy the criteria below:

<p>1. Weight loss history i. Previous nonsurgical attempts at weight reduction for at least six months.</p>
<p>2. The patient commitment includes: i. Follow-up visits with healthcare teams, voluntary participation in support groups, and other recommendations made by healthcare teams. ii. Recommended medical management, including dietary supplements and exercise routine. iii. Compliance with instructions regarding any recommended procedures or tests. iv. Smoking cessation for a minimum of four weeks before surgery.</p>

Figure 4: Malaysia Consensus on patients and procedure selection for bariatric and metabolic surgery

In Malaysia, no long-term bariatric studies have been conducted since the first bariatric procedure in 1996. A local retrospective cohort study by Tan et al. conducted in a hospital compared three months pre, and post-bariatric surgery showed a significant drop in the mean BMI of ($10 \pm 6\text{kg/m}^2$, $p < 0.001$) and were able to improve their diabetes, hypertension, and dyslipidemia. Evidence shows that bariatric surgery can reduce short-term and long-term mortality from all causes, including cardiovascular disease and cancer. A high rate of diabetes remission was demonstrated over five years.

According to NICE guidelines, specific diet and lifestyle instructions will be provided to the patient after surgery. These include multivitamins and lifestyle modification advice. An 800-1000 kcal/day diet was prescribed following the surgery and a multicomponent weight loss plan. This diet must not exceed 12 weeks. Dietary advancement depends on nutritional needs and patient tolerance. Bariatric surgery can cause short- and long-term complications. Short-term complications include nausea, vomiting, inability to swallow liquids, dehydration, and wound infections. 1 out of 100 patients experiences severe complications, including pulmonary embolism, deep vein thrombosis, and stomach bleeding. However, this complication is rare.

A primary care provider should have a low threshold for urgent referral to a local bariatric unit. Another concern is macro and micronutrient deficiency. Menstruating women are especially prone to iron deficiency. Vitamin B12, thiamine, folate, and vitamin B6 deficiency are standard when depleted reserves. Furthermore, hypovitaminosis D (and hypocalcemia) are common in patients with obesity, even before surgery, due to sedentary lifestyles. A cohort study in Finland found that vitamin 25(OH)D and B12 levels and albumin levels were within recommended ranges two years after bariatric surgery.

Nevertheless, patients who underwent bariatric surgery had a greater risk of cumulative fractures. Therefore, lifestyle modification and supplementation are essential after surgery. However, there is no consensus on the number of vitamins and minerals needed, so it is difficult to determine the risk of micronutrient deficiencies. Deficits cannot be prevented by supplements alone. Primary care teams need to monitor patients' diets and complications. Annual monitoring should include a complete blood count, electrolytes, liver function tests, and serum levels of glucose, iron, ferritin, vitamins D, B12, calcium, parathyroid hormone, thiamine, folate, and selenium. Bone density measure by double energy x-ray absorption (DEXA). Primary care physicians treat their patients holistically by considering their disease, psychosocial background, and support system.

CONCLUSION

Obesity is a significant problem in Malaysia, as one in two adults is overweight or obese. Primary care physicians must take the initiative to open discussions when handling patients with obesity for the treatment options as part of a multidisciplinary approach. Additionally, obesity cannot be treated solely through lifestyle changes. Therefore, bariatric surgery should be considered if indicated. The option of bariatric surgery should not be restricted to the elderly, but rather a shared decision should be made after clinical evaluation and

discussion. It is also crucial that primary care physicians follow up with patients after the procedure and help them adopt a healthier lifestyle in the long run to reduce the likelihood of weight regaining.

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REFERENCES

1. Auspitz M, Cleghorn MC, Azin A, Sockalingam S, Quereshy FA, Okrainec A, et al. Knowledge and Perception of Bariatric Surgery Among Primary Care Physicians: a Survey of Family Doctors in Ontario. *Obesity Surgery*. 2016;26(9):2022–8. doi:10.1007/s11695-016-2055-x.
2. Funk LM, Jolles SA, Greenberg CC, Schwarze ML, Safdar N, McVay MA, et al. Primary Care Physician Decision Making Regarding Severe Obesity Treatment and Bariatric Surgery: A Qualitative Study. *Surgery Obesity-Related Diseases*. 2016;12(4):893–901. doi:10.1016/j.soard.2015.11.028
3. Mubarak AGA. Patient and Procedure Selection for Bariatric and Metabolic Surgery in Malaysia- The Malaysian Consensus. 2021;76(2):4.
4. Martínez-St John DR, Palazyn-Bru A, Gil-Guillén VF, Sepehri A, Navarro-Cremades F, Ramírez-Prado D, et al. Diagnostic Inertia in Obesity and the Impact on Cardiovascular Risk in Primary Care: A Cross-Sectional Study. *British Journal of General Practice [Internet]*. 2015 Jun 28 [cited 2022 Mar 9];65(636):e454–9. doi: 10.3399/bjgp15X685669.
5. O'Connor PJ, Sperl-Hillen JM, Johnson PE, Rush WA, Biltz G. Clinical Inertia and Outpatient Medical Errors [Internet]. Nih.gov. Agency for Healthcare Research and Quality (US); 2005 [cited 2022 Feb 27]. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK20513/#A2772>