BARIATRIC SURGERY: ADVANTAGES, DISADVANTAGES, AND COMPLICATIONS

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Introduction

Obesity is a global issue caused by reduced physical activity, poor nutrition, and genetic factors, significantly impacting physical and psychological health. According to the World Health Organization (WHO), obesity today threatens the lives of millions of people around the world. Bariatric surgery, a surgical intervention aimed at treating obesity and related diseases, has proven to be an effective solution in preventing and treating such conditions. This article discusses the advantages, disadvantages, and the most common complications associated with bariatric surgery. Bariatric surgery is widely used as an effective method for treating excess weight and obesity. As a result of these surgeries, patients often experience improvements in their quality of life and health indicators. However, complications and discomforts may arise after bariatric surgery. This article analyzes complications and the impact on life quality in patients undergoing bariatric surgery based on recent research over the last three years.

Importance of Bariatric Surgery

Bariatric surgery is performed to treat obesity and reduce the risk of associated diseases, such as heart disease, metabolic syndrome, type 2 diabetes, and others. The main goal of bariatric surgery is to significantly reduce the patient's weight and normalize the body’s metabolic processes. Bariatric procedures are an effective way to reduce health problems associated with morbid obesity (BMI > 40). In metabolic diseases, bariatric surgery slows the progression of complications related to these diseases. Bariatric surgery plays an important role in managing type 2 diabetes, hypertension, and dyslipidemia. After surgery, patients often experience reduced

insulin resistance, which helps regulate blood sugar levels. Weight loss, along with normalization of blood pressure and improvement in lipid profile, enhances the overall health of patients.

Life quality improves as well. After bariatric surgery, patients often observe many positive changes, including increased physical activity, improved psychological well-being, and an overall improvement in quality of life. Studies have shown that after weight loss, patients significantly improve their self-esteem.

Bariatric surgery plays a crucial role in controlling diabetes, with both weight loss-dependent and weight loss-independent mechanisms. Weight loss itself improves insulin sensitivity in muscles and adipose tissue. In contrast, the liver is more sensitive to weight loss-independent effects, leading to improved insulin sensitivity in the liver. These non-weight-related effects also include changes in postprandial blood sugar and insulin dynamics, where blood sugar levels rise to higher peaks but quickly return to baseline levels. Bariatric surgery also increases levels of various postprandial gut peptides, bile acids, and fibroblast growth factor 19 (FGF19), which promote intestinal cell proliferation and the differentiation of enteroendocrine cells, especially after Roux-en-Y gastric bypass (RYGB) and vertical sleeve gastrectomy (VSG).

Common Bariatric Surgery Methods

1. **Sleeve Gastrectomy (Stomach Reduction)**: In this procedure, a large portion of the stomach is removed to create a smaller stomach.
2. **Roux-en-Y Gastric Bypass (Gastric Bypass)**: In this method, the upper part of the stomach is separated, and it is directly connected to the small intestine, effectively shortening the digestive tract.
3. **Gastric Banding**: This involves placing a band around the stomach to limit the amount of food that can be consumed. This procedure is generally simpler and associated with fewer complications.

4. **Gastric Bypass**: This surgery involves dividing the stomach into a smaller portion, which alters the digestive system and helps with significant weight loss, but it increases the risk of vitamin and mineral deficiencies.
5. **Bariatric Balloons**: This surgical method involves placing a temporary balloon in the stomach, which creates a feeling of fullness and helps restrict food intake.

Advantages of Bariatric Surgery

Bariatric surgery is effective and provides long-term results in treating obesity. The advantages include:

- **Weight loss and health improvement**: Bariatric surgery helps not only in weight loss but also in reducing the risks associated with metabolic diseases such as type 2 diabetes, hypertension, and dyslipidemia. Procedures like sleeve gastrectomy and Roux-en-Y gastric bypass show good results.
- **Diabetes control**: Bariatric surgery, especially gastric bypass, is highly effective in treating or managing type 2 diabetes. Several studies have shown that after bariatric surgery, patients regain insulin sensitivity, and blood sugar levels are normalized.
- **Long-term health improvement**: In the years following surgery, patients do not only lose weight but also experience significant improvements in physical activity and overall health. The risk of heart disease, respiratory issues, and several types of cancer decreases.

Complications of Bariatric Surgery

After bariatric surgery, patients may encounter various complications:

- **Malabsorption and Nutritional Deficiencies**: 20-50% of patients may face vitamin B12, folic acid, and iron deficiencies after surgery. This can worsen their health indicators.
- **Gastric Reflux**: 30-50% of patients may experience reflux symptoms after surgery, which can interfere with digestion and reduce quality of life.

- **Gastrointestinal Problems**: Patients often experience nausea, diarrhea, and other digestive issues post-surgery.
- **Psychological Complications**: Psychological changes after bariatric surgery are significant. Depression and anxiety are common post-surgery, often related to the weight loss process.
- **Social Issues**: Patients may face difficulties adjusting to changes, which can impact their social life. Social isolation and reduced self-esteem may play a significant role in this process.

Quality of Life After Bariatric Surgery

Bariatric surgery significantly improves the quality of life of patients.

- **Physical Activity**: After bariatric surgery, patients generally increase their physical activity levels. Reduced food intake and weight loss help decrease the risk of cardiovascular diseases. Patients often engage more in physical exercises, which has a positive impact on their overall health.
- **Psychological Improvement**: The improvement in quality of life includes not only physical well-being but also psychological development. Patients often feel better, have increased self-esteem, and are more active in social life.
- **Overall Health**: After surgery, patients often overcome several diseases, including type 2 diabetes and hypertension. Maintaining a healthy weight and improved metabolism enhances overall health.

Research Results

In this study, 60 patients who underwent bariatric surgery were monitored for one year. Among them, 20 were male (33.3%), and 40 were female (66.7%). Patients ranged in age from 22 to 61 years, with an average age of 44.5. Before surgery, the average BMI was 38.74, with an average HbA1c of 8.34 (5.28) and an average blood glucose level of 10.26 mmol/L. Among the patients, 24 (40%) had type 2 diabetes, 17 (28.34%) had arterial hypertension, and 32 (53.34%) had non-alcoholic fatty liver disease (NAFLD).

During the post-operative period, patients were regularly monitored, and supplements including proton pump inhibitors, multivitamin complexes, calcium, vitamin D, iron, and folic acid were prescribed. Blood tests, including general blood tests, urinalysis, blood glucose levels, and lipid profiles, were conducted regularly. After surgery, the average BMI dropped to 26.95, with 17 (28.34%) patients achieving normal weight, 42 (70%) at stage 1 obesity, and 1 (1.67%) at stage 2 obesity. The average HbA1c decreased to 5.28, blood glucose levels dropped to 5.12 mmol/L, and lipid profile improved. 22 (91.67%) patients with type 2 diabetes achieved remission.

Post-operatively, 5 (8.33%) patients experienced mild complications, including hypoglycemia (3.33%), dumping syndrome (1.67%), and mild anemia (3.34%).

Conclusion

This study demonstrates that bariatric surgery significantly improves the overall health of patients. Over the course of a year, BMI decreased from 38.74 to 26.95, with a significant reduction in type 2 diabetes, blood glucose levels, and lipid profiles. Bariatric surgery proves to be an effective solution for treating obesity, improving metabolic parameters, and managing coexisting diseases.

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