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Bariatric Surgery: Reducing India's Diabetes Burden

Morbid obesity is a serious health condition that results from change in lifestyle, unhealthy eating habits lack of physical exercise, medical conditions like hypothyroid and even certain genes can be reason for obesity. It can interfere with basic physical functions such as breathing or walking. Those who are morbidly obese are at greater risk for illnesses including diabetes, high blood pressure, sleep apnea, gastroesophageal reflux disease (GERD), gallstones, osteoarthritis, heart disease and cancer.

India is facing a significant rise in obesity for both men and women. Aptly called the Diabetes Capital of the world, India held 19th rank in terms of number of diabetic people in 1975. But the country slipped to the 3rd rank in 2014, reflecting a fast increase in obesity rate. Indian women are more likely to be obese than their male counterparts. There were 20 million obese women in India in 2014 compared with 9.8 million obese men. While people in India have been trying to use different methods to get rid of their excess weight like exercise, yoga, dieting etc for long, now bariatric surgery is emerging as an attractive option for them.

Many a times controlling obesity with physical exercise and dieting fails due to different medical or non-medical reasons or sometimes patient's weight is extremely high which makes it difficult to get into shape. In such complex conditions bariatric surgery is an ideal solution. Evidence suggests that bariatric surgery may lower the death rates for patients with severe obesity.

What is Bariatric Surgery?

Bariatric Surgery is an amalgamation of variety of procedures performed on patient suffering from obesity. The basic principle of bariatric surgery is to restrict food intake and decrease the absorption of food in the stomach and intestine. It is designed to alter or interrupt the digestion process so that food is not broken down and absorbed in the usual way. A reduction in the amount of nutrients and calories absorbed enables patients to lose weight and decrease their risk for obesity-related health risks or disorders.

When does one need a Bariatric surgery?

BMI which stands for 'Body Mass Index' is a measure of height in relation to weight; it is used to define levels of obesity and help determine if the surgery is required. In case your BMI is 40 or higher, and you have a serious weight related problem or your BMI is 35 or more and at least one or more obesity related co-morbidities such as Type II Diabetes (T2DM), hypertension, sleep apnea and other respiratory disorders or even heart diseases, you may be a candidate for a bariatric surgery.



Types of Bariatric Surgeries

1. Gastric sleeve Resection

It was originally performed as a modification to other Bariatric Procedure. The weight loss procedure is very effective which removes approximately 50% portion of your stomach and reduces level of the hormone Ghrelin. This hormone is responsible for hunger. The surgery permanently alters the size of your stomach by removing lower portion of the stomach.

Advantages:

- It does not require any ongoing adjustments.
- It's a purely restrictive procedure.
- Regular follow up is necessary to ensure weight loss is appropriate and intake is nutritionally adequate.
- It is the most physiological procedure with minimum nutritional deficiencies.

Disadvantages:

- Stomach may dilate and lead to weight regain after 2 years.

2. Gastric bypass

A Gastric Bypass is an irreversible procedure which involves dividing the stomach into a smaller upper section, or 'pouch' and connecting the small intestine directly to that pouch. The result is that the 'stomach volume' is reduced, as is the length of effective small intestinal tract.

3. Roux-en-y Bypass

In this procedure, stapling creates a small (15 to 20cc) stomach pouch. The remainder of the stomach is not removed, but is completely stapled shut and divided from the stomach pouch. This is connected into the side of the Roux limb of the intestine, creating the "Y" shape that gives the technique its name.

Advantages:

- It's mainly restrictive with slight mal-absorption.
- After a year, weight loss can average 77% of excess body weight.
- Up to 90 percent resolution in DM, HTN OSA at one year post surgery.

Disadvantages

- Poor absorption of iron and calcium can result in the

lowering of total body iron.

- Chances of nutritional deficiency and marginal ulcers.

4. Mini Gastric Bypass

It is quicker, technically easier and with lower risk (0.5%) of mortality according to most studies. The newly constructed stomach is smaller and tubular in shape. Between 2 to 7 feet of intestines are bypass. The surgeon will attach the remainder of the intestines to the new stomach.

Advantages:

- The surgery has more promising results around the globe in term of excess body weight loss and comorbidities resolution.
- People can eat all types of food, no mortality with the surgery and reversible operation.
- Type -2 Diabetes, infertility, HTN, OSA resolution rates are higher as compare to Gastric sleeve Resection and Roux-en-y Bypass.
- Lower complication rates when compare to gastric sleeve and RYGB.
- It is a purely malabsorptive procedure.



Disadvantages:

- Risk of nutritional deficiency greater than RYGB.

How bariatric surgery works?

Bariatric surgery work by changing the anatomy of gastrointestinal tract (stomach and digestive system), or by making different physiological changes in the body that changes the energy balance and fat metabolism. Weight loss occurs by reducing the size of the stomach with a gastric band or through removal of a portion of the stomach or by re-routing the small intestine to a small stomach pouch.

The gastric bypass works by several mechanisms. First, similar to most bariatric procedures, the newly-created stomach pouch is considerably smaller and hence facilitates significantly smaller meals, which translates into less digestion. There is a segment of small intestine that would normally absorb calories as well as nutrients that no longer has food going through it, which means there is probably to some degree less absorption of calories and nutrients.

Advantages of Bariatric Surgery

- Produces significant long-term weight loss, which is almost 60 to 80 per cent excess weight loss.
- Restricts the amount of food that can be consumed.
- Produces favourable changes

in gut hormones that reduces appetite and enhance satiety.

- Increases energy expenditure. On top of decreasing medications and losing weight, bariatric surgery has other benefits as well.
- Bariatric surgery reduces cancer risk in morbidly obese patients.
- Improved self-esteem and quality of life.
- Improvement in fertility and complications during pregnancy.
- Longer span life.

Disadvantages of Bariatric Surgery:

- It is technically more complex operation than the AGB. Generally it has a longer hospital stay than the AGB.
- Potentially may result in greater complication rates.
- It requires adherence to dietary recommendations, lifelong vitamin/mineral supplementation, and follow-up compliance.
- It may lead to a long term vitamin/mineral deficiencies particularly deficits in vitamin B12, iron and calcium.

Bariatric surgery in India

There are many hospitals in India which are working their level best to provide necessary care and treatment to obese patients. These hospitals are performing all different types of weight loss surgeries including

revision surgeries with success rates compared to International standards.

High volume centres have successfully provided better outcomes and improved quality of life for hundreds of obese patients with the help of committed consultants, allied specialists and dietician.

The additions of second generation single incision laparoscopy surgeries and robotic surgical operations are latest procedures for patients who have morbid obesity.

Surgery for weight loss in India is substantially lower than in developed countries or available in only tertiary care hospitals. In spite of low cost, hospitals in India have a reputation for providing the best facilities and highly trained doctors to do it. Hospitals for weight loss surgery in India are also reputed to have the most modern operating theatres, ICU's, equipment and infrastructure to deliver best care to their patients.

Some key factors one should consider while searching hospital for the surgery

- All major equipment and facilities in all weight loss centres.
- A big line-up of experienced and skilled doctors.
- Highly qualified paramedical staffs.
- Easy accessibility due to strategic location.

Cost of Bariatric Surgeries

Bariatric Surgery sure is an expensive surgery. In India a bariatric surgery costs anywhere between Rs 2.5 to Rs 5 lakh, and the equipment and technology alone costs around Rs 1.75 lakh. Surgeons with the Obesity and Metabolic Surgery Society of India (OMSSI) say they have written to the Union Government to ensure that bariatric surgery procedures are insured as they have been now established as metabolic surgeries rather than cosmetic ones. **MH**