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Title **Surgical Treatment of Morbid Obesity: An Update**

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Aim

To update a 1998 report on the surgical treatment of morbid obesity and to re-examine the efficacy, cost, and risk for complications of surgical procedures used to treat morbid obesity.

Conclusions and results

Obesity is defined as a body mass index (BMI) of 30 kg/m^2. *Morbid obesity* refers to a BMI of 40 kg/m^2, or 35 kg/m^2 if associated with comorbidities. Between 1978 and 2004, obesity rose in the Canadian population from 13.8% to 23.1% (21.8% in Québec), while morbid obesity rose from 0.9% to 2.7%. In 1997, 2.4% of Canada's total medical costs, or $1.8 billion, were attributable to adult obesity. Since a multidimensional approach (education, counseling, etc.) is not effective in treating morbid obesity, bariatric (ie, weight loss) surgery is considered the only treatment. The following techniques were studied:

- *Vertical banded gastroplasty* (VBG) has lost favor as a stand-alone method due to lower than expected weight loss. Combined with RYGB, VBG yields good long-term results.
- *Roux-en-Y gastric bypass* (RYGB) is considered the gold standard in weight-loss surgery, and is the most common method.
- *Biopancreatic diversion with duodenal switch* (BPD-DS) is no longer considered experimental due to positive results. Some suggest it is appropriate for super-obese patients.
- *Laparoscopic RYGB and VGB* reduce hospital stays and decrease, or eliminate, complications associated with open surgery. Surgeons must train in the best conditions to master the approach.

Surgical treatment of morbid obesity appears to be cost effective. The positive effects of weight loss appear to compensate for the costs of surgery, complications, followup, and plastic surgery. Evidence indicates that hybrid techniques that combine gastric restriction and intestinal malabsorption are superior to those designed only to restrict gastric capacity. Research shows that after 1 year of followup, laparoscopic RYGB achieves the same outcomes as the open version.

Recommendations

- Develop a plan to define and respond fairly to the need for bariatric surgery in Québec
- Provide the conditions (patient-selection, facilities, multidisciplinary teams, etc) to ensure that Québec hospitals can offer high-quality bariatric treatment for patients most in need
- Establish a registry on morbid obesity to assess needs and best clinical practices.

Methods

Scientific articles and health technology assessment reports published since 1998 were reviewed (most were retrospective case series). The outcome measures for the analysis were: clinical efficacy (weight loss); safety (complications); comorbidity (reduction or not of associated conditions); consumption of health goods or services; and efficiency (cost-utility ratios).

Further research/reviews required

- Ongoing evaluation of current surgical procedures and new approaches based on registry data
- Confirmation, by longer-term economic studies, of the early assessment that hybrid techniques are superior.

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