

Gastric bypass has better long-term outcomes than gastric banding

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Context

The prevalence of obesity has continued to increase worldwide.¹ It is well established that bariatric surgery is an effective treatment for obesity.² However, few studies have looked at long-term outcomes and for those that do, follow-up is frequently poor. This systemic review examines the association of bariatric surgery with the outcomes of weight loss and diabetes, hypertension and hyperlipidaemia resolution in studies of at least 2 years duration with adequate follow-up of patients. It compares the three most common types of bariatric surgery.

Methods

This was a systematic review of randomised controlled trials (RCTs) and observational studies of at least 50 adult patients who were undergoing gastric bypass, gastric band or sleeve gastrectomy, with at least 2 years of follow-up and at least 80% follow-up of patients for the outcome measures. Outcome measures included percentage of excess weight lost, type 2 diabetes, hypertension and hyperlipidaemia. The review clearly stated the question being addressed, the search strategy, study selection, assessment of study quality, data extraction and it adhered to recognised study protocols using the PRISMA criteria. Results were reported as sample size weighted outcome means and were compared using t tests.

Findings

Overall, 29 studies met the inclusion criteria with weight loss outcomes, reporting on 11 gastric bypass (n=3544 patients), 13 gastric band (n=4109 patients) and 2 sleeve gastrectomy (n=115 patients) studies. The sample size weighted mean percentage of excess weight lost for gastric bypass was 65.7%, for gastric band 45% and for sleeve gastrectomy

64.5%. There were no differences in sample size weighted means between prospective (n=13 studies) and retrospective (n=11 studies) studies.

Six studies reported on type 2 diabetes remission after bariatric surgery. Sample size weighted remission rates were 66.7% for gastric bypass (n=428 patients) and 28.6% for gastric band (n=96 patients). For hypertension, three studies reported on outcomes. Sample size weighted remission rates were 38.2% after gastric bypass (n=808 patients) and 17.4% after gastric band (n=247 patients). For hyperlipidaemia, three studies reported on outcomes. Sample size weighted remission rates were 60.4% after gastric bypass (n=477 patients) and 22.7% after gastric band (n=97 patients). Long-term complications were low for the studies included. No studies of sleeve gastrectomy met inclusion criteria for the outcomes of type 2 diabetes, hypertension or hyperlipidaemia.

Commentary

This systematic review highlights the importance of long-term studies when evaluating bariatric surgery. Unfortunately, very few studies report long-term outcomes with 80% or greater follow-up of the original cohort.

From this review, it is clear that weight loss for gastric bypass was consistently greater than for gastric band and that there is insufficient evidence for sleeve gastrectomy at this time. An additional RCT, which was published after the cut-off for this review, had 91% follow-up at 3 years and compared medical therapy to gastric bypass and sleeve gastrectomy.³ Using a more stringent definition of type 2 diabetes remission than was used by this review, 38% in the gastric bypass group (n=50 patients) and 24% in the sleeve gastrectomy group (n=50 patients) had diabetes remission.

Implications for practice

This review highlights the need for long-term outcome studies of bariatric surgery. In all outcomes reported, gastric bypass was superior to gastric band. The long-term outcomes after sleeve gastrectomy lack sufficient evidence to compare gastric bypass at this time.

Competing interests None.

Provenance and peer review Commissioned; internally peer reviewed.



References

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