The American Journal of Surgery 220 (2020) 1370–1371

Contents lists available at ScienceDirect

The American Journal of Surgery

journal homepage: www.americanjournalofsurgery.com

My Thoughts / My Surgical Practice

Specific aspects of bariatric surgery in French Polynesia

Native Hawaiians and Polynesians living in economically disadvantaged communities suffer disproportionately from many health conditions, especially chronic diseases.[1] Regional mean BMI in 2014 was maximum in Polynesia and Micronesia: for men 29.2 kg/m^2 and 32.2 kg/m^2 for women.[2] During 1980–2009 there were significant increases in BMI and obesity in Polynesia.[3]

Age-standardized adult diabetes mellitus prevalence in 2014 was highest in Polynesia and Micronesia, at nearly 25%.[4] Native pacific islanders have higher rates of diabetes compared with other races/ethnicities.[5] In bariatric surgery, ethnicity can modify perioperative morbidity and mortality and long-term weight loss results.[6,7] Also in many remote pacific islands, health care is not provided.[8]

In 2011 a comprehensive bariatric program was initiated in Polynesia by a single surgeon that had been previously specifically trained in a high-volume bariatric center in France.

The objective of this study was to identify the effectiveness and safety of bariatric procedures in Polynesian population in the setting of a structured bariatric program led by a single bariatric surgeon. In addition, we aimed to evaluate the impact of medical observance during post-operative follow-up.

This was a single-center study with a retrospective analysis of prospectively collected data. Patients were then selected preoperatively using the following criteria: 18 years old and less than 65years of age or good general condition, the existence of morbid obesity with BMI greater than 40 or 35 with presence of comorbidities related to obesity - radiologically proven osteoarthritis, hypertension, type 2 diabetes mellitus (T2D) or obstructive sleep apnea syndrome (OSAS).

We retrospectively reviewed all patients supported in our institution for obesity surgery between May 2011 and June 2017. Surgical technique: we performed sleeve gastrectomy (SG) and Roux-en-Y gastric bypass (RYGBP). Adjustable gastric binding (AGB) procedures were made in another institution.

Surgical complications were classified according to Clavien-Dindo[9] Only surgical complications $\geq$3 were reported.

In total, 458 patients underwent bariatric surgery during the study period. Median age was 39.5 $\pm$ 10 years, mean BMI was 46.8 $\pm$ 7.8. We did 185 RYGBP and 273 SG.

The median follow-up of patients is 2.1 years [1.3–2.9]. There was no statistically significant difference between RYGBP and SG for weight loss and comorbidities improvement or resolution. There was no statistically significant difference in vitamin supplementation ($p = 0.395$) and the compliance rate was relatively low (52.2%).

The risk of a postoperative biliary stones requiring cholecystectomy appeared to be greater after RYGBP than after SG although this difference did not reach statistical significance ($p = 0.08$).

There were no deaths related to the surgery. The serious complications are: three leaks requiring surgical revision (1 for RYGBP and 2 for SG), 1 anastomotic stricture at the gastrojejunal anastomosis for RYGBP, two moderate strictures for SG treated by endoscopy. There was no statistically significant difference between the two surgical procedures with respect to the Clavien-Dindo $\geq$ 3 complication rate.

The present study indicates that a bariatric program can be safely and effectively established in a remote area such as French Polynesia with a low medical density allowing results that are comparable to those obtained in metropolitan France. In our study, with a median 2.1 years follow-up, there was a 10.5 BMI loss and 29.3 kg weight loss for RYGB, and 10.3 BMI loss and 29.7 kg weight loss for SG. There was no statistically significant weight loss between SG and RYGBP (p-value = 0.855). However, the two groups were not strictly identical since the BMI baseline was higher in the SG group. In fact, at the beginning of the experience, RYGBP was the most frequently proposed procedure and the included BMIs were lower.

The rapid increase in obesity is a major public health issue, particularly in poorer areas such as Pacific island populations. In this isolated population, follow-up programs are difficult to implement. The SG is preferred in French Polynesia in front of its lower morbidity, the lesser seriousness of a non-vitamin supplementation and the reduction of the risks of biliary complications, with comparable results in terms of excess weight lost compared to the RYGBP.

Funding

No funding was received for this study.

Ethical consideration

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. For this type of study formal consent is not required.

Declaration of competing interest

The authors declare that they have no conflict of interest.

Acknowledgements

We thank Pr Jean Gugenheim for his help in implementing this experience.

https://doi.org/10.1016/j.amjsurg.2020.06.029

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18 June 2020