GASTRIC BYPASS IS SUPERIOR TO SLEEVE GASTRECTOMY IN LONG-TERM REDUCTION OF TOTAL CHOLESTROL/HDL RATIO (CARDIAC RISK RATIO): A 5-YEAR STUDY WITH 100% FOLLOW UP

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Introduction

Total Cholesterol/HDL ratio is a predictor of cardiovascular risk including acute myocardial infarction. Few studies have shown that bariatric surgery can reduce this ratio but are limited by their short term follow up of 1 year or significant loss of patients to follow up in longer studies. The aim of this study was to compare the longterm effect of laparoscopic sleeve gastrectomy and laparoscopic Roux-en-Y gastric bypass on total cholesterol/HDL ratio and the prescription of statin therapy in this cohort.

Methods

A training bariatric surgical unit went through phased introduction of procedures. This commenced with 70 laparoscopic sleeve gastrectomies followed by 70 bypasses. All patients received similar perioperative and postoperative care. Patients undergoing revisional procedures were excluded. This resulted in 58 patients and 61 patients who underwent sleeve gastrectomy and gastric bypass respectively. Cholesterol levels were monitored and managed by the patients' primary care physicians. Total Cholesterol/HDL ratio and the use of statins preoperatively and at 1- and 5-years post surgery were studied, and statistical analysis was carried out using SPSS.

Results

The baseline characteristics for both groups were comparable as shown in **Table 1.** The number of patients in each group prescribed statins preoperatively is shown in **Figure 1.**

Table 1: Baseline Characteristics

	Sleeve	Bypass	P-value
Age	49.0	45.8	0.092
BMI	50.8	52.5	0.706
Gender (F)%	77.6%	68.9%	0.283
Total Cholesterol/HDL ratio (mmol/L)	4.05	3.95	0.699

At 1 year the total cholesterol/HDL ratio differed significantly between operation groups (Sleeve 3.40 vs Bypass 2.80, p<0.0001). In the sleeve group there was a plateau of reduction after 1 year compared with a continued reduction in the bypass group up to the study period of 5 years (3.40 vs 2.60, p<0.0001) (**Figure 2**). Statin use was lower at 5 years compared to preoperative use in the bypass group. Statin use however was higher in the sleeve gastrectomy group at 5 years (**Figure 1**).

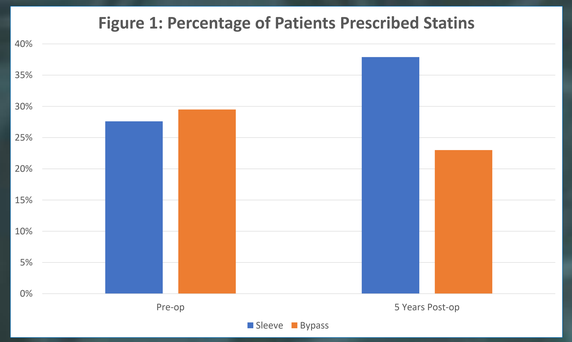
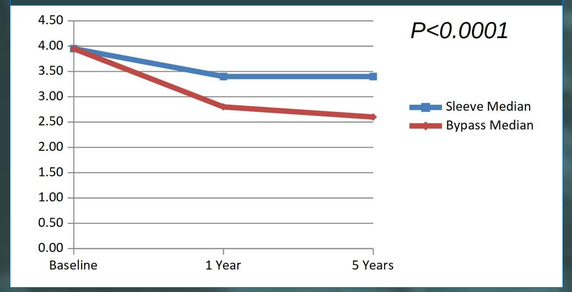


Figure 2: Median Total Cholesterol: HDL ratio



Conclusion

Laparoscopic Roux-en-Y gastric bypass results in significant reduction of Total Cholesterol/HDL ratio (cardiac risk ratio) compared with laparoscopic sleeve gastrectomy at 5 years. This was achieved with a reduction in use of statins in the bypass group whereas the use of statins increased to more than preoperative levels in the sleeve gastrectomy group