

Background

- Bariatric surgery aims to provide long term weight loss and improved glycaemic control in obese patients with Type 2 diabetes.

Aim

- To investigate the clinical measures of obesity and glycaemic control in patients with Type 2 diabetes 5 years following bariatric surgery regardless of operation types.

Methods

- Non-randomised prospective study.
- Participants undergoing planned bariatric surgery in WIMOS, Swansea.
- Inclusion criteria:
 - Both sex, Age 20-60, BMI>40 kg/m².
 - T2DM: previously known or diagnosed pre-op OGTT.
- Exclusion criteria: IFG/IGT.
- Body weight, body mass index (BMI), waist circumference, hip circumference, blood pressure, HbA1c, and lipid profile were recorded pre-operatively, 1 month, 6 month and 5 year post-operatively.

Results

- 17 subjects (14 females) were included in analysis.
- Mean duration of follow up was 5.3 ± 2.2 years.

Changes in clinical measures of obesity following bariatric surgery

- Mean body weight reduced from 151 ± 41kg to 134 ± 40kg at 1 month; 120 ± 30kg at 6 months; 117 ± 25kg at 5 years following bariatric surgery (P<0.001). (Figure 1)
- Similar observations were noted for BMI, waist circumference and hip circumference. (Figure 2 & 3)

Figure 1: Mean changes in body weight

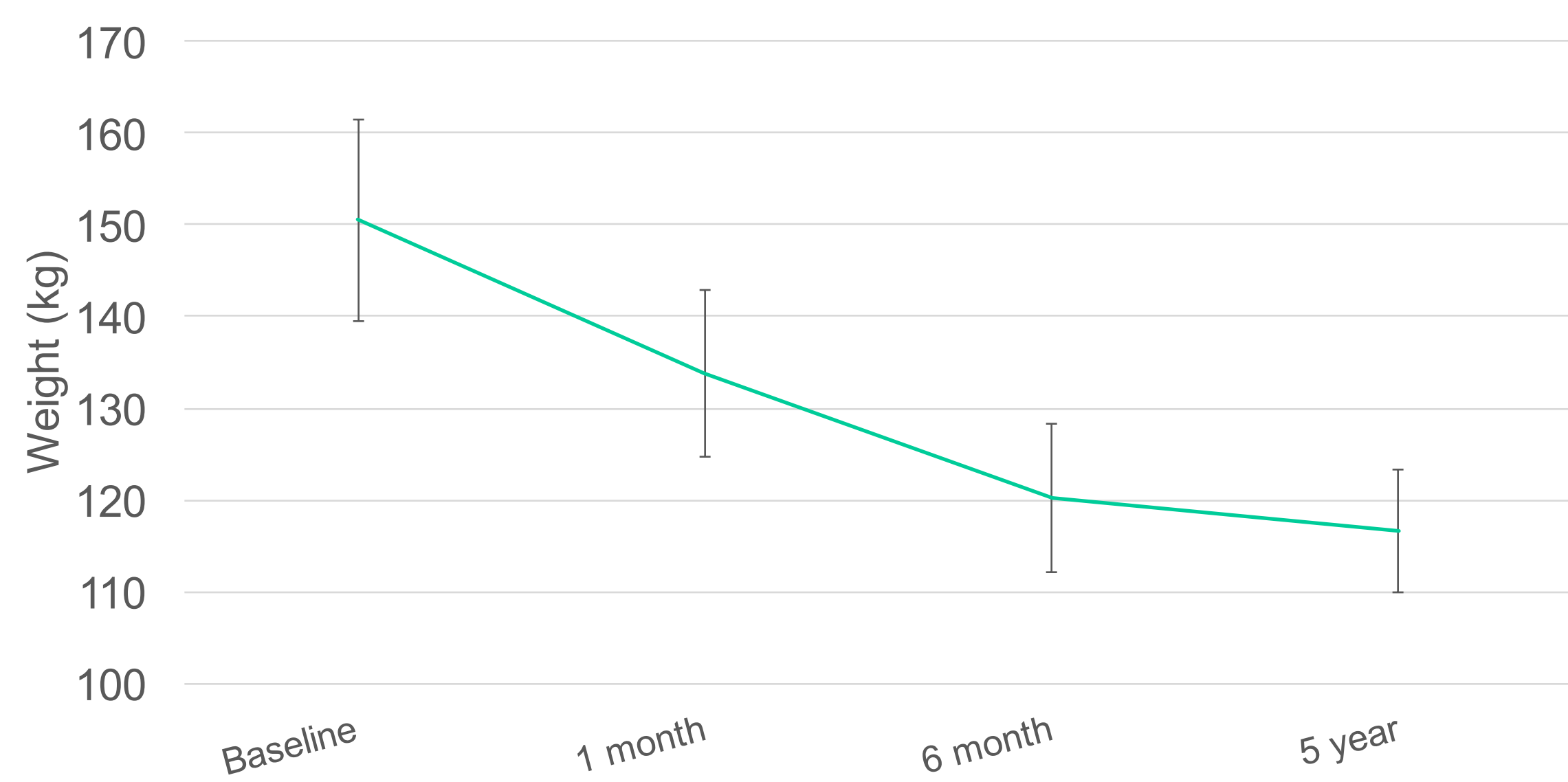


Figure 2: Mean changes in BMI

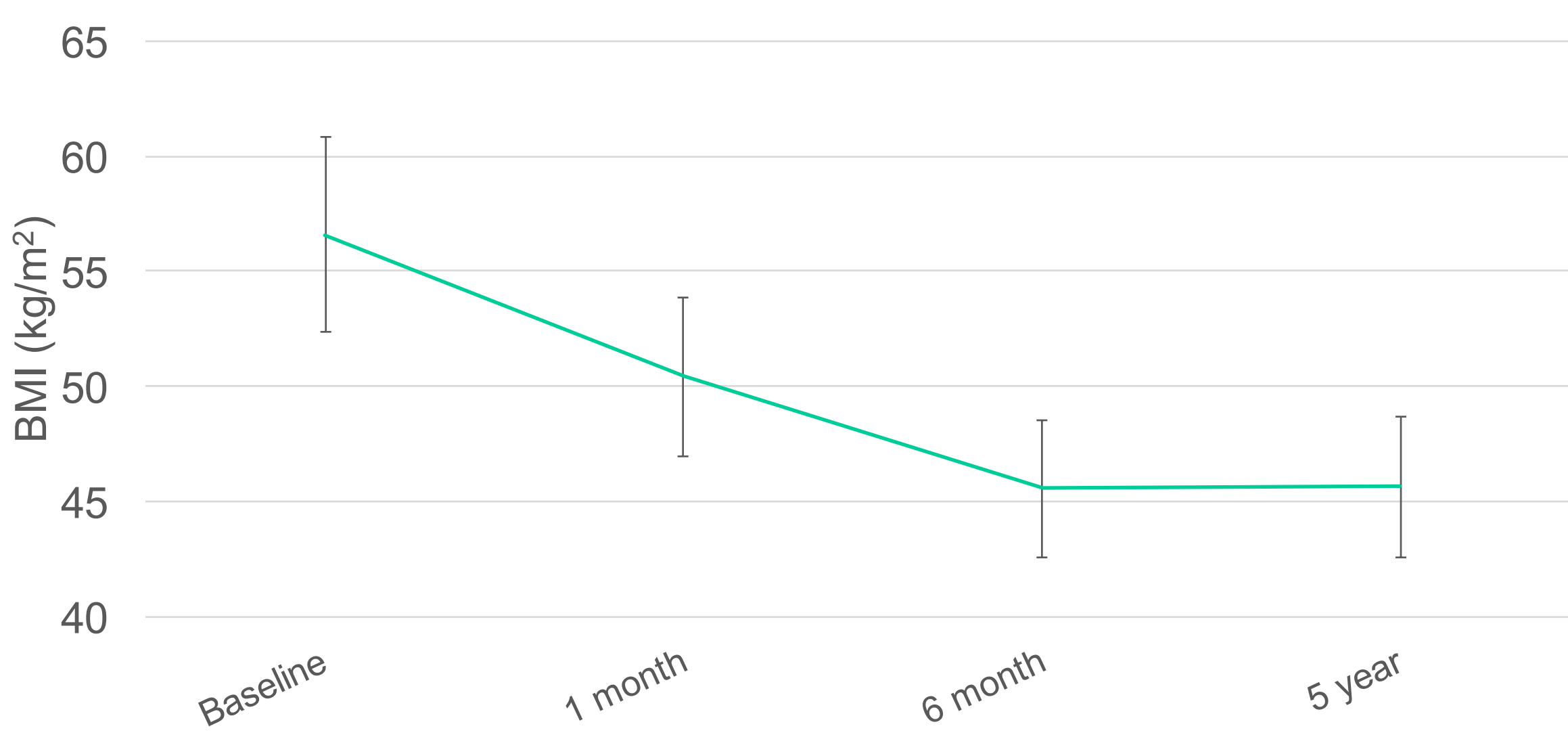
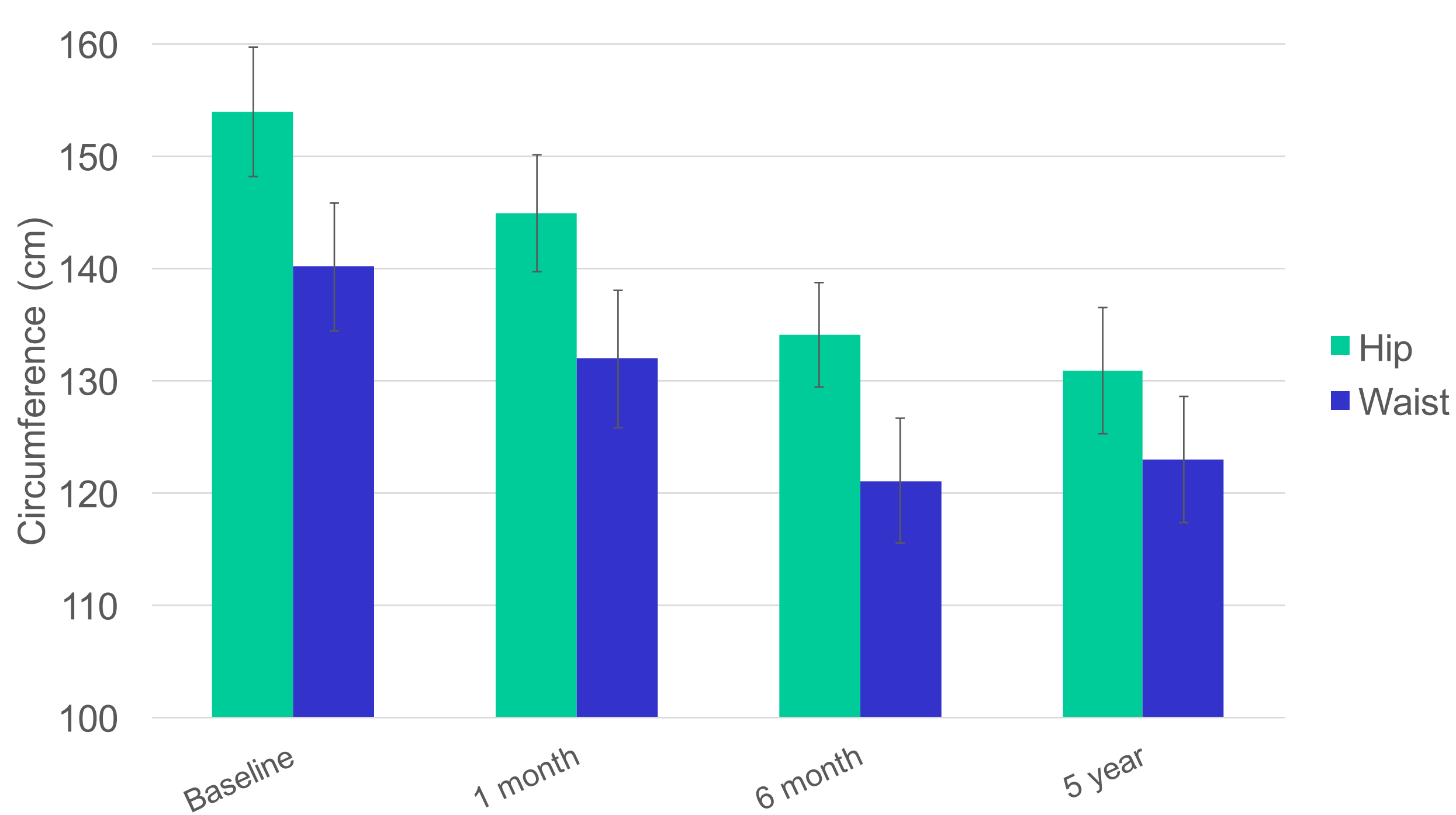


Figure 3: Mean Changes in hip and waist circumferences

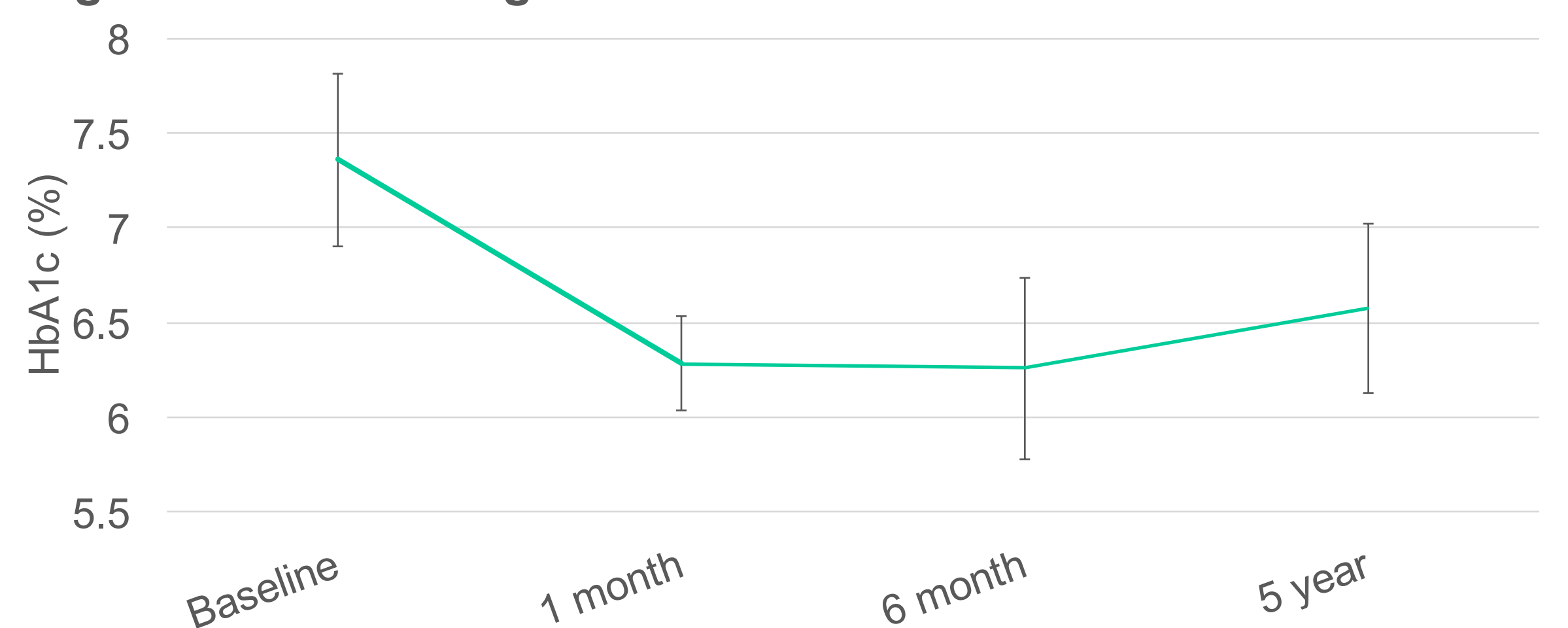


Data are shown as Mean ± Standard Error.

Glycaemic control following bariatric surgery

- Significant reduction in HbA1c was also maintained at 5 years (baseline HbA1c 7.3 ± 1.5% v 6.6 ± 1.4% at 5 years, P<0.001). (Figure 4)
- 11 out of 16 participants achieved a HbA1c<6.5% at the 5 year follow-up visit.

Figure 4: Mean changes in HbA1c

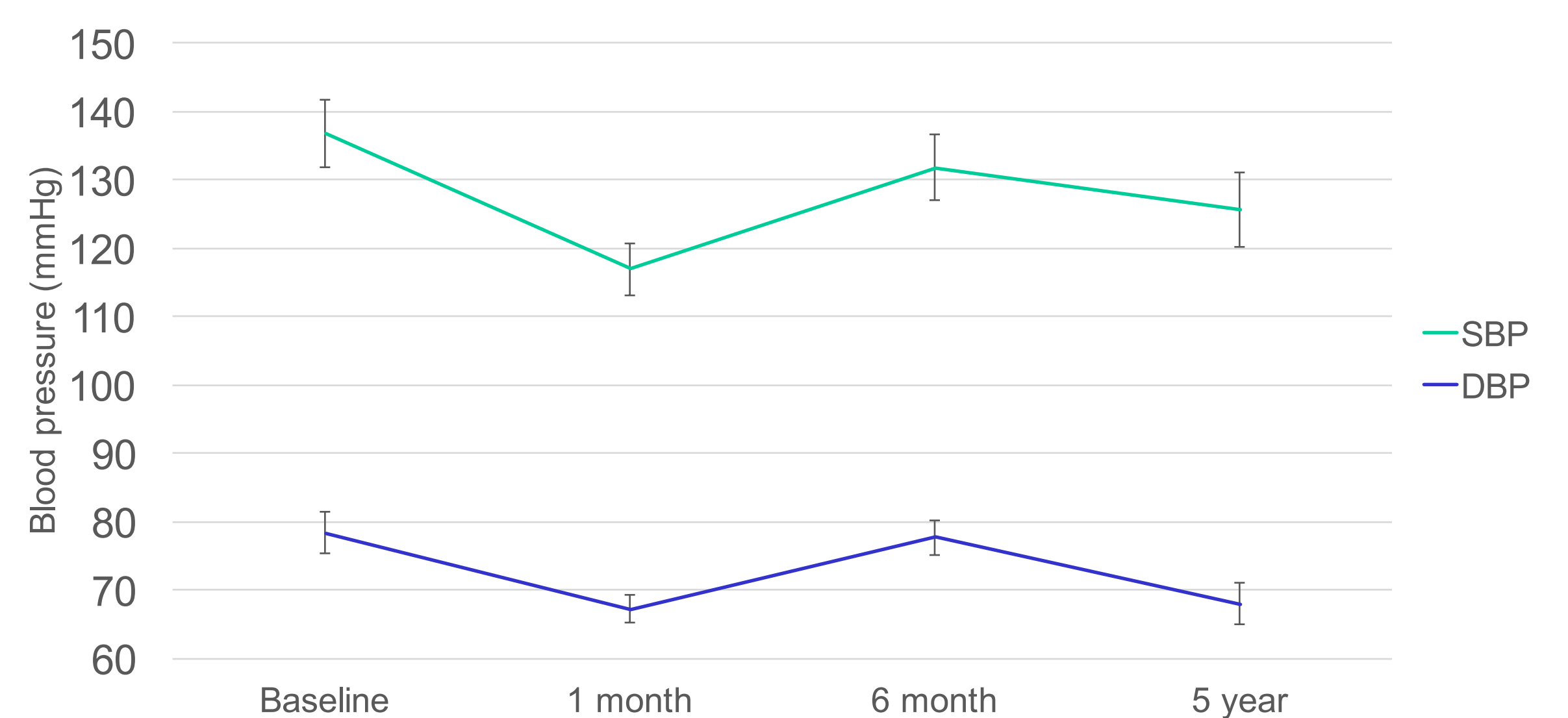


Data are shown as Mean ± Standard Error.

Blood pressure following bariatric surgery

- Significant reduction in systolic (P=0.005) and diastolic (P=0.002) blood pressure was observed at 1 month and 5 year visit. (Figure 5)

Figure 5: Mean changes in blood pressure

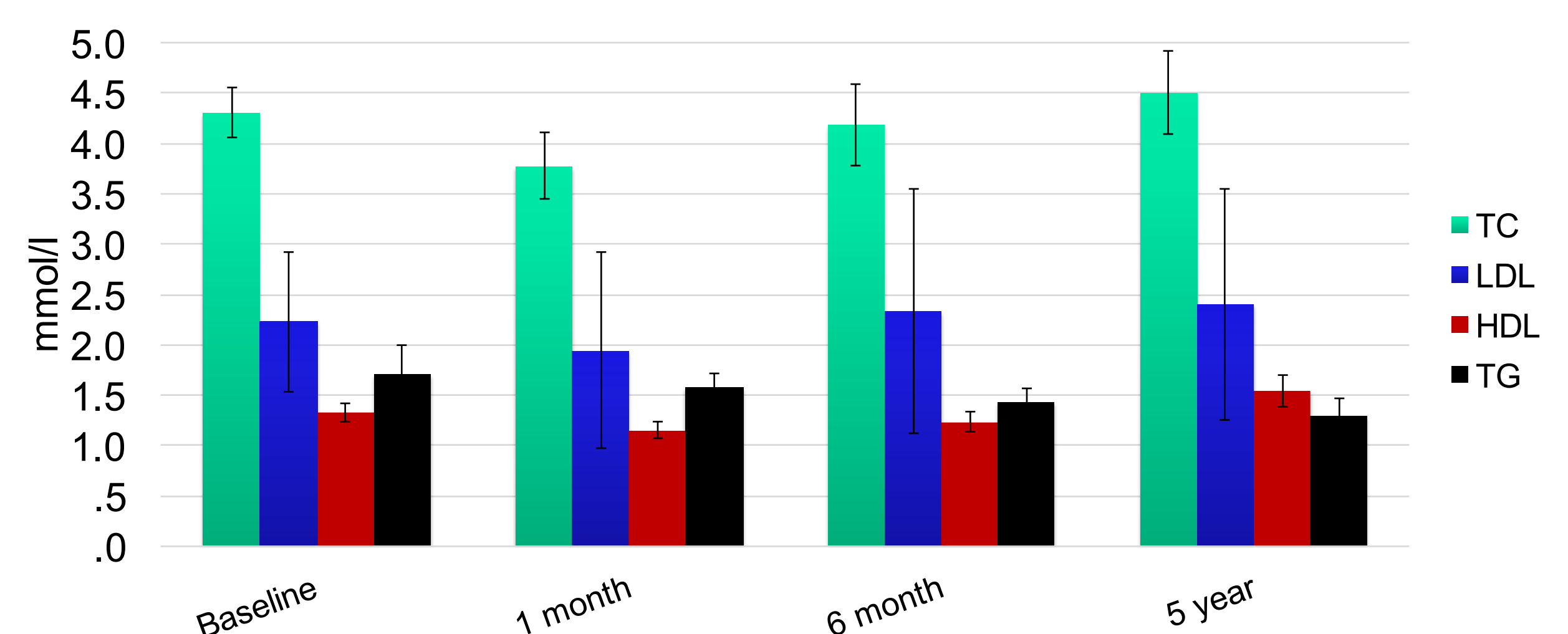


Data are shown as Mean ± Standard Error.

Lipid profile following bariatric surgery

- Total cholesterol, LDL cholesterol and triglyceride did not show any significant changes but HDL cholesterol increased from 1.3 ± 0.3 mmol/L to 1.5 ± 0.6 mmol/L (P=0.007). (Figure 6)

Figure 6: Mean changes in lipid profile



Data are shown as Mean ± Standard Error.

Conclusions

- Improvements in HbA1c and clinical measures for obesity at 6 months following bariatric surgery are maintained over 5 years.