

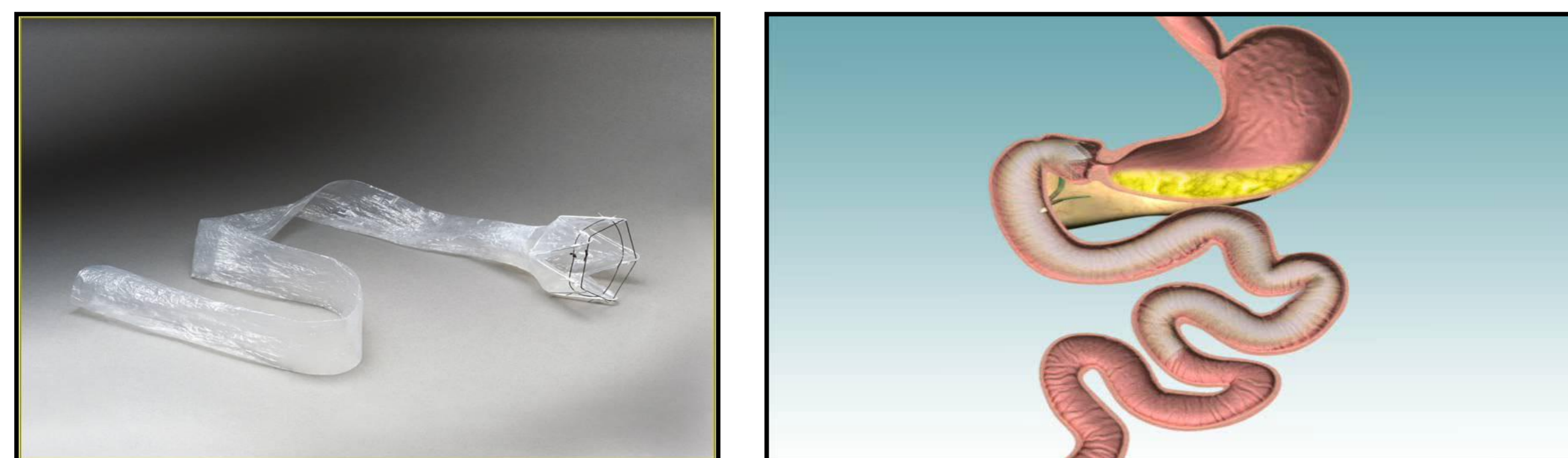
Endoscopic, Duodenal-jejunal Bypass Liner Exerts Robust Improvement in Glycemia and Body Weight in Obese Patients with Type 2 Diabetes

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Introduction

The endoscopically delivered duodenal-jejunal bypass liner (DJBL) exhibits robust metabolic effects in obese subjects with type 2 diabetes (T2D). We report a pooled analysis of five (5) open-label, clinical trials evaluating the effects of the DJBL in obese patients with T2D who had not progressed to injectable anti-diabetic therapy.



Materials and Methods

- The DJBL was implanted for planned 12 months in 71 subjects with T2D. (Table 1)
- Greater than 90% of subjects were on a background of oral anti-diabetes medications and had not yet progressed to injectable anti-diabetes therapy options. (Table 1)
- Efficacy and safety measures were captured for the implant duration.

Five Pooled Open-Label Clinical Trials (n=71)		Five Pooled Open-Label Clinical Trials (n=71)	
Age (yrs)	48.7 ± 1.09	Baseline anti-diabetes medications (n %)	
HbA1c (%)	8.4 ± 0.15	Drug naïve	6 (8.4%)
Duration of diabetes (yrs)	4.8 ± 0.36	Monotherapy	32 (45.1%)
Weight (kg)	108.2 ± 3.14	Combination	33 (46.5%)
BMI (kg/m ²)	39 ± 0.95		

Table 1: Baseline characteristics, mean ± SEM

Results: Safety

Common adverse events (AEs) were abdominal pain, nausea/vomiting, and hypoglycemia. Forty (40) percent of AEs were related to GI disorders. Mild to moderate hypoglycemic events were reported in 16 (22.5%) subjects (almost all were treated with sulfonylurea). All AEs were mild or moderate in severity and resolved without any additional sequelae.

Device/Procedure Adverse Events	% Subjects with AE		
	Mild	Moderate	Severe
Abdominal pain (upper)	32.4	7.0	0
Nausea	19.7	1.4	0
Vomiting	22.5	1.4	0
Hypoglycemia	21.1	1.4	0
Vitamin D deficiency	16.9	1.4	0

Table 2: Most common treatment emergent adverse events with >10% incidence

Conclusions

In a pooled analysis of five (5) studies examining 12 months of DJBL treatment in obese T2D subjects, clinically meaningful improvements in glycemic and body weight control were observed. The device appears to be generally safe and well-tolerated. This non-surgical approach warrants further characterization as a potentially important intervention in T2D subjects.

Results: Efficacy

Over 12 months of DJBL treatment period:

- Subjects experienced robust improvement in glycemic control (Figure 1, $-1.2\% \pm 0.17$) and body weight (Figure 2, $-12 \text{ kg} \pm 1.08$)
- 57% of the subjects reached ADA goal (A1c < 7%).
- 29 of 69 (42%) subjects had an A1C reduction of <1% (baseline mean 7.7); 22 of 69 (32%) had an A1C reduction in the range of $\geq 1\%$ to $\leq 2\%$ (baseline mean:8.2); 18 of 69 (26%) had an A1C reduction of >2% (baseline mean 9.6).
- More than half (54%) of subjects lost more than 10% of their initial weight.
- 43% of subjects met the composite endpoint of $\geq 1\%$ A1C reduction **and** $\geq 10\%$ weight loss (for subjects with starting A1C >8)
- LDL-C, triglycerides and total cholesterol were significantly improved during DJBL implantation. (Table 3)
- A1C improved despite a shift to a reduced background anti-diabetic medication usage. (Table 4)

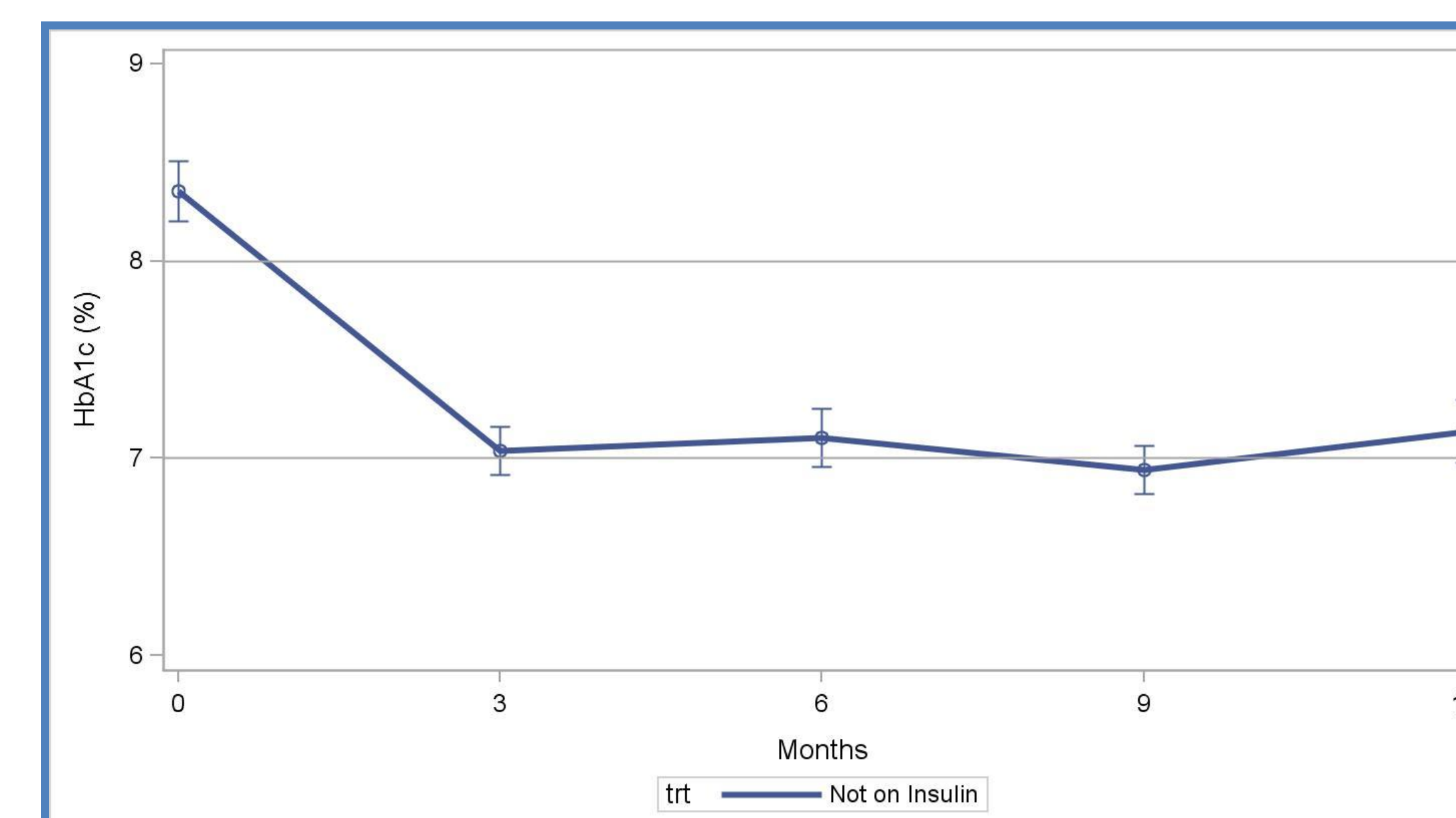


Figure 1: Mean ± SEM Δ HbA1c, 12-month completers (n=69)

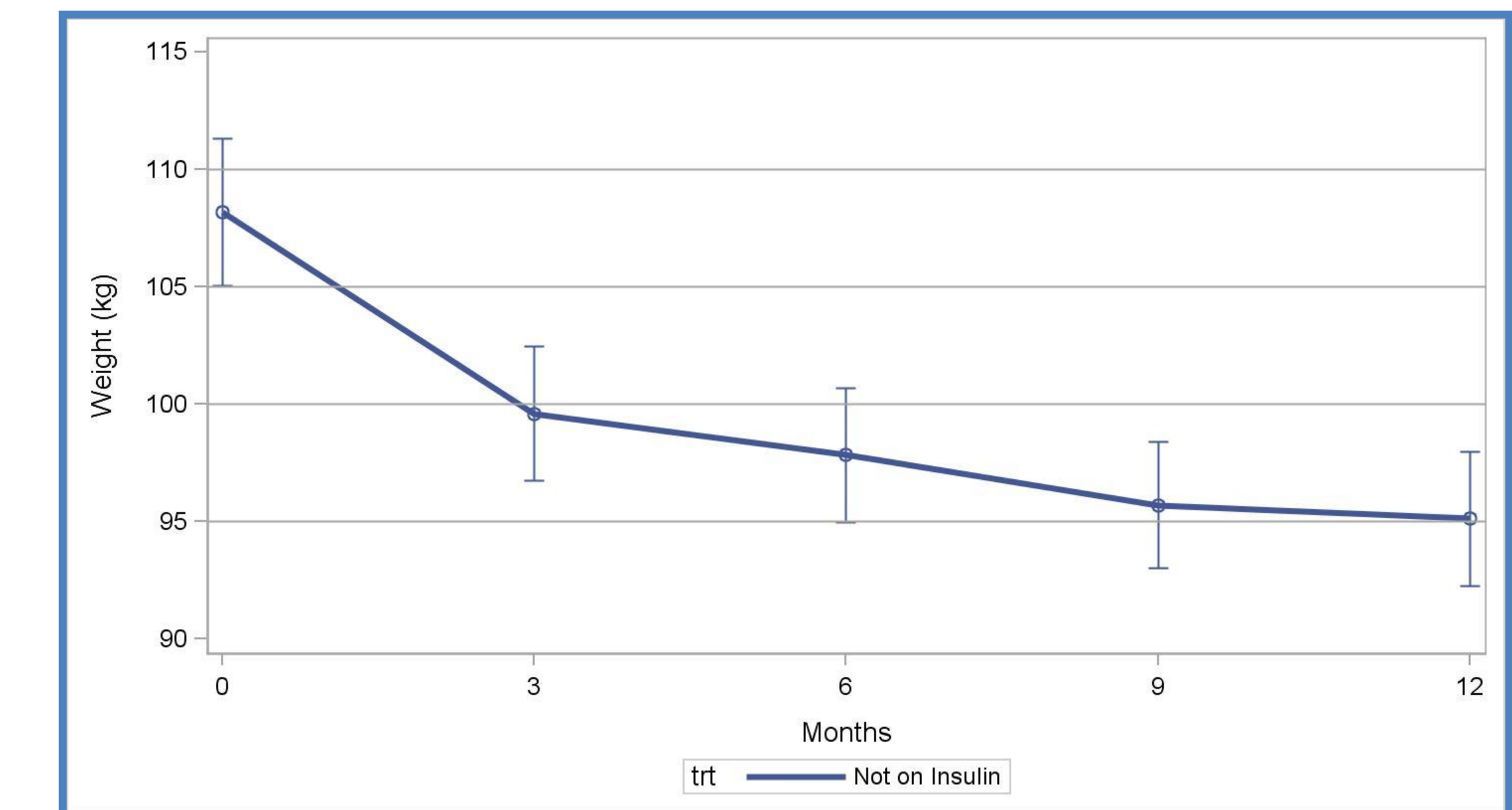


Figure 2: Mean ± SEM Δ weight (kg), 12-month completers (n=71)

	Baseline	Month 12	% Change (95% CI)
Total Cholesterol (mmol/L)	4.8	4.3	-10.9 (-12.1 to -6.4)
LDL-C (mmol/L)	2.8	2.5	-13.2 (-14.7 to -3.0)
HDL-C (mmol/L)	1.1	1.1	-4.2 (-5.7 to 1.4)
Triglycerides (mmol/L)	2.1	1.8	-18.8 (-17.3 to -0.7)

Table 3: Mean change in lipid profiles, 12-month completers (n=71)

Anti-Diabetes Medication at Time of Treatment Completion	(n=71)
Increase	14 (19.7%)
Decrease	29 (40.8%)
No Change	19 (26.8%)
Not Assessable	7 (12.7%)

Table 4: Anti-diabetes medication changes at 12 months

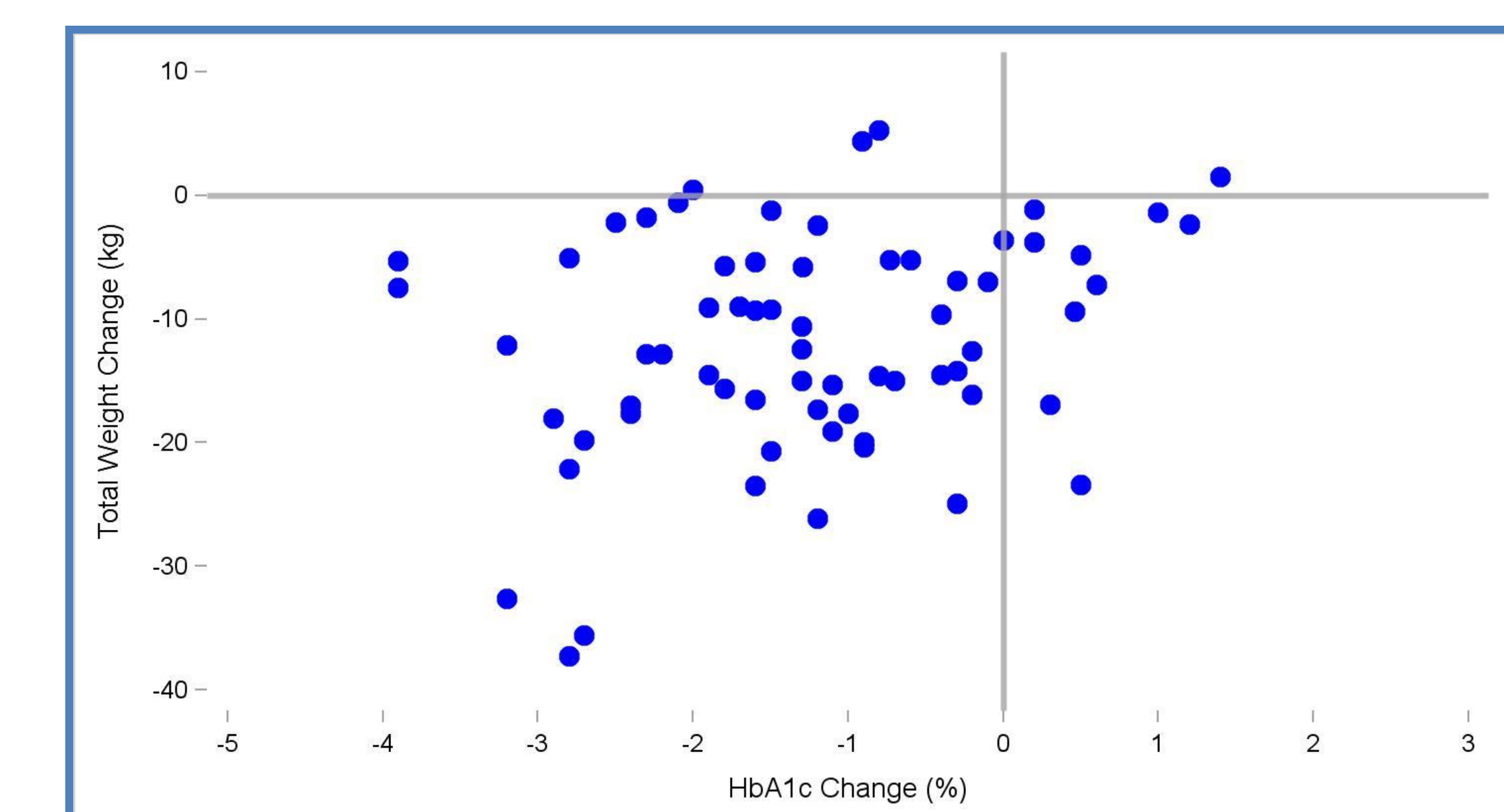


Figure 3: Δ weight (kg) vs. Δ HbA1c, 12-month completers (n=71)