Utility of One Anastomosis Gastric Bypass in Type 1 Diabetes, A Case Series

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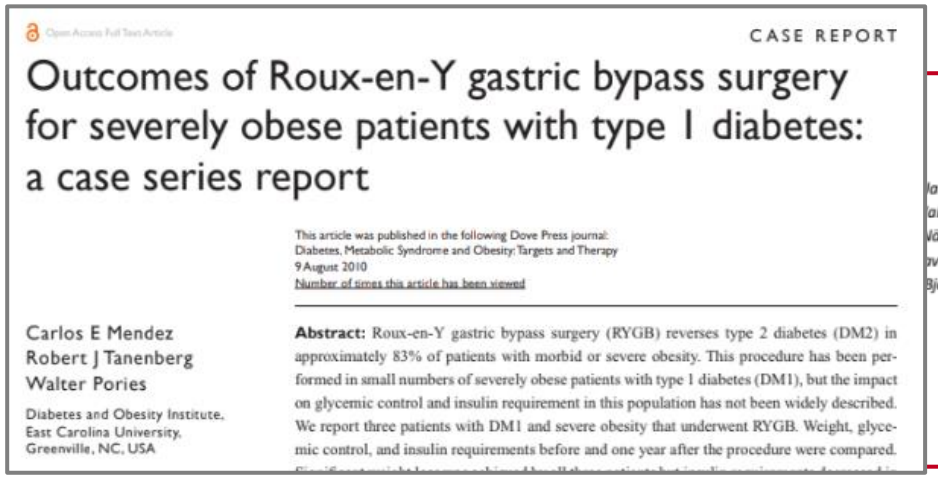
[X] I have no potential conflict of interest to report

Background



CASE REPORT

Outcomes of Roux-en-Y gastric bypass surgery for severely obese patients with type 1 diabetes: a case series report

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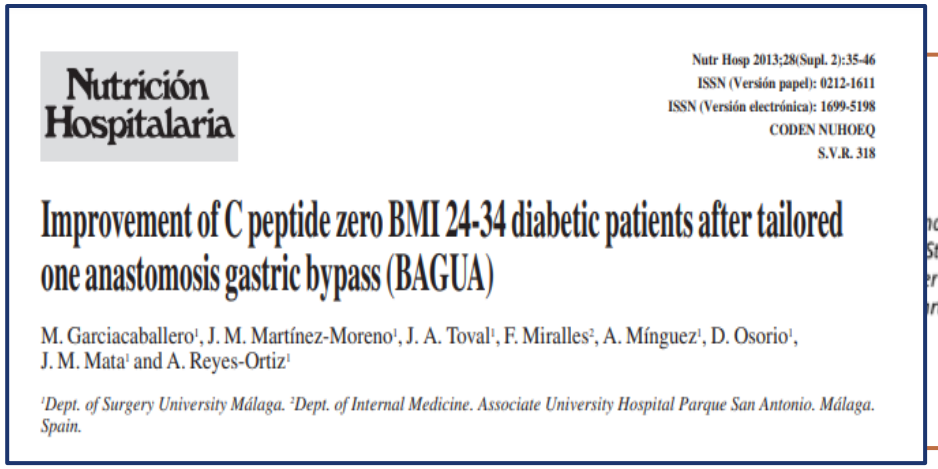
Abstract: Roux-en-Y gastric bypass surgery (RYGB) reverses type 2 diabetes (DM2) in approximately 83% of patients with morbid or severe obesity. This procedure has been performed in small numbers of severely obese patients with type 1 diabetes (DM1), but the impact on glycemic control and insulin requirement in this population has not been widely described. We report three patients with DM1 and severe obesity that underwent RYGB. Weight, glycemic control, and insulin requirements before and one year after the procedure were compared.

RYGB in severely obese patients with T1DM leads to **significant weight loss and improved insulin sensitivity**, however achieving optimal glycemic control remains challenging due to **persistent insulin deficiency** (3)

RYGB in patients with T1DM and obesity may **reduce cardiovascular risks and mortality** but also **increases the risk of serious hyperglycemic events** and substance abuse, highlighting the need for careful post-surgery monitoring. (1)



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Improvement of C peptide zero BMI 24-34 diabetic patients after tailored one anastomosis gastric bypass (BAGUA)

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Study in **BMI 24-34** patients with zero C-peptide levels **(T1DM, LADA and long-term evolution T2DM)** found performing OAGB **significantly**:

- Improved glycemic control
- eliminated the need for rapid insulin
- reduced long-lasting insulin
- resolved metabolic syndrome
- improved complications such as retinopathy, neuropathy, nephropathy (4)

Performing RYGB & sleeve gastrectomy in patients with T1DM leads to **significant weight loss** and **reduced insulin requirements**, but **does not substantially improve glycemic control**, emphasizing the need for further research on the best surgical approach for this population. (2)

Insulin requirements and HbA1C were **significantly less** on follow up in 24 months.
All three patients achieved **optimal clinical responses** with regards to weight loss

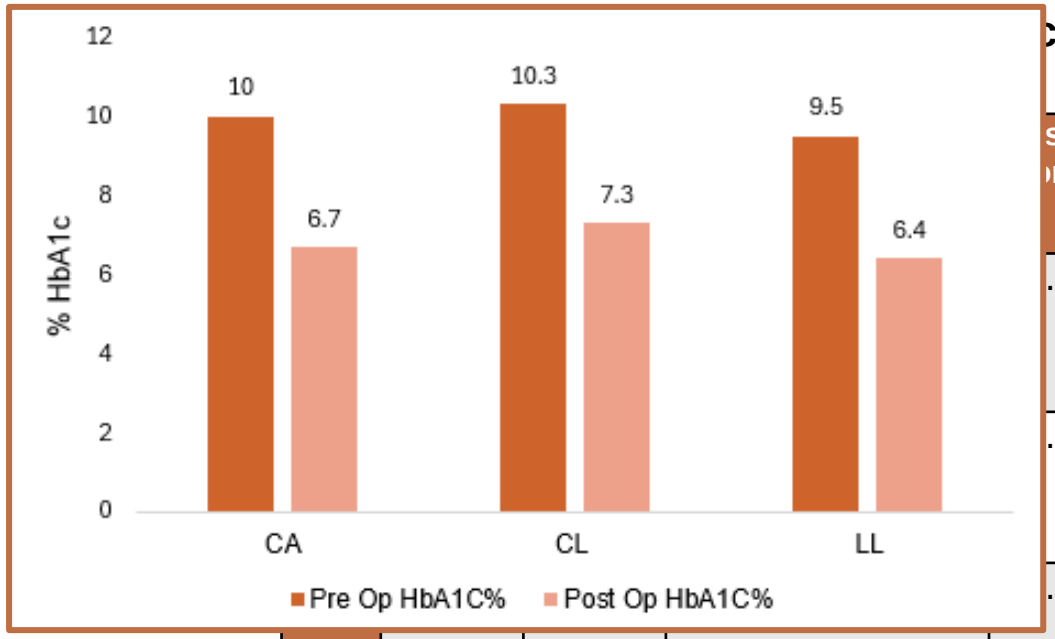

Figure 1. Pre & Post-operative (24 months) HbA1c differences

cal outcomes

Table 2. Pre & post-operative (24 months) insulin requirements

	Pre/Post-Op short-acting insulin	Pre/Post-Op long-acting insulin
CA	36 to 9	44 to 10
CL	100 to 46	88 to N/A (pump)
LL	47 to 32	60 to N/A (pump)

st-Op w
nths (k

.8

.0

.0 | 45.0 | 26.6 | 41%

Quality of life significantly improved (SF-36 questionnaire) in all 3 patients at 24 months post-op compared to pre-operative period

- All three patients achieved **optimal clinical responses** with regards to weight loss (48%, 19% and 41% total weight loss respectively).

Table 3. Evolution of co-morbidities: pre & post-operatively (24 months)

	Reflux		OSA		HTN		Chol		Arthritis	
	Pre-Op	Post-Op	Pre-Op	Post-Op	Pre-Op	Post-Op	Pre-Op	Post-Op	Pre-Op	Post-Op
CA	Yes, nil meds	No	Yes, CPAP	No	No	No	Yes, Lipitor 40	No	Yes, Panadol Osteo	Mild
CL	No	No	No	No	No	No	Yes	No	Yes	No
LL	No	No	No	No	No	No	Yes	No	No	No

Conclusion

- OAGB can be safely performed on patients with T1DM with comparable (if not better) results to RYGB in terms of TWL, glycaemic control and improvement in quality of life.

- Further investigations, including prospective clinical trials and extended follow-up studies, are necessary to elucidate the full therapeutic value and optimal integration of OAGB in the management of T1DM.