Double Tract Reversal of Roux-en-Y Gastric Bypass

A Novel Technique

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DISCLOSURES

- There are no conflicts of interest to disclosure

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REVERSAL OF RYGB

Background

- Select patients develop severe, long-term complications following RYGB including malnutrition, early dumping syndrome and post-prandial hypoglycaemia
- Where conservative measures fail, surgical reversal may be warranted
- **Reversal to normal anatomy (RNA)** was first described by Himpens et al. (2006)
- RNA is technically challenging and associated with significant post-operative morbidity and mortality
- Several small series have reported:
  - 30-day complication rates up to 32%, owing to anastomotic leak, sepsis and bleeding
  - Severe de-novo GORD post RNA

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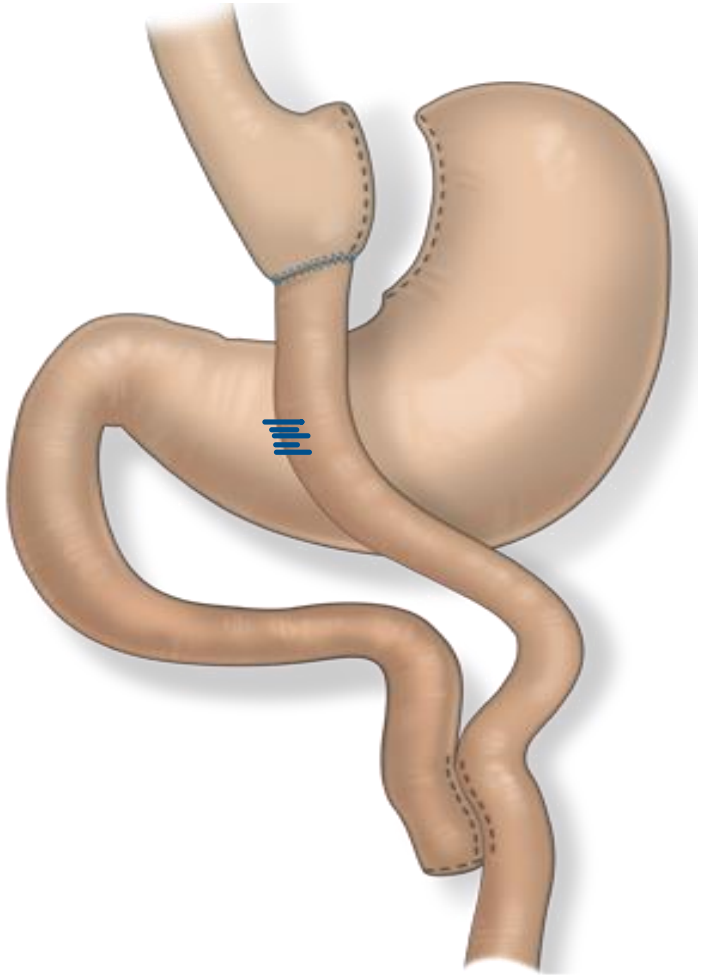
DOUBLE-TRACT REVERSAL

Objectives

- We present DTR as an alternative to RNA
- DTR involves formation of neo-gastrojejunostomy between the proximal Roux limb and gastric remnant

Methods

- Retrospective review of all patients who underwent DTR of RYGB across two high-volume bariatric surgery centres in Queensland, Australia, between February 2019 and February 2024
- Efficacy and safety of DTR compared to reported outcomes for RNA



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RESULTS: DEMOGRAPHICS, INDICATIONS FOR REVERSAL AND OPERATIVE DATA

Demographics

Eleven patients underwent DTR of RYGB during the study period.

	n (%) or median (range)
Female	11 (100%)
Age (years)	52 (30 – 72)
Weight (kg)	67 (50 – 96)
BMI (kg/m2)	25.2 (17.7 – 35.5)
Time from RYGB (months)	27 (3 – 140)

Indications

	n (%)
Malnutrition	4 (36%)
Early dumping syndrome	4 (36%)
Post-prandial hypoglycaemia	3 (27%)

Operative Data

	n (%) or median (range)
Duration (mins)	58 (50 – 63)
Conversion	0
Estimated blood loss (mL)	0
Intra-operative blood transfusion	0

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RESULTS: SYMPTOM RESOLUTION AND WEIGHT OUTCOMES

Symptom Resolution

All patients achieved complete symptom resolution following DTR.

Weight Outcomes

Most patients (n=10, 91%) experienced recurrent weight gain after DTR.

Mean (Δ)	DTR	1M	6M	12M	24M
Weight (kg)	66.9	68.9 (2.0)	69.9 (3.0)	71.8 (4.9)	74.3 (7.4)
BMI (kg/m2)	25.2	26.4 (1.2)	26.6 (1.4)	27.9 (2.7)	29.3 (4.1)
TWL from RYGB (%)	32	25 **(-7)**	22 **(-10)**	19 **(-13)**	16 **(-16)**

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RESULTS: EARLY AND LATE MORBIDITY AND MORTALITY

Early Morbidity (<30 days)

No anastomotic leak, sepsis or bleeding requiring transfusion.

	n (%) or median (range)
Morbidity	
CDI – II	2 (18)
CDIII	2 (18)
Mortality	0
Readmission	0
Reintervention (OGD)	2 (18)
Reoperation	0
Length of stay (days)	2 (1 – 12)

Late Morbidity and Mortality (>30 days)

Mean follow-up was 9.3 months (2-24 months).

Complication	4 (36%)	Intervention
Neo-GJ stomal ulcer	1 (9%)	Surgical: revision of DTR (24 months post reversal)
Neo-GJ stenosis	2 (18%)	Endoscopic: balloon dilatation
Pyloric dysfunction	1 (9%)	Endoscopic: pyloric Botulinum-A injection
De-novo GORD	0	

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Paper (n)	**DTR, 2024** (11)	**Penar, 2016** (19)	**Arman, 2018** (25)	**Ma, 2019** (48)
Demographics				
Age (years)	52 (30-72)	48.1 (30-64)	41.9 (21-67)	48.6 (23-72)
Female sex (%)	100	74 (14)	100	96 (46)
Operative data				
Operative time (min)	58 (50-63)	NA	NA	129.8 (46-485)
LOS (days)	3.8 (1-12)	6.8 (2-31)	NA	8 (1-50)
Follow up (months)	9.3 (2-24)	22.5 (4-40)	5.3 (2-11 years)	24.2 (2-72)
Symptom resolution (%, n)	100	84 (16)	88 (22)	100
30-day complications (%, n)	18 (2)	21 (4)	32 (8)	29 (14)
Anastomotic leak	0	0.5 (1)	16 (4)	10 (5)
Reoperation	0	10.5 (2)	12 (3)	15 (7)
Reintervention	18 (2)	10.5 (2)	20 (5)	6 (3)
12-month weight outcomes				
Change in TWL from RYGB (%)	-13	NA	-12.9	-20.7
De-novo GORD (%, n)	0	16 (3)	51.7 (8)	NA