



XXIX IFSO World Congress

1-4 September 2026 | Toronto, Canada

Intussusception after Roux-en-Y
gastric bypass for the treatment of
severe obesity: a systematic review
and meta-analysis

TORONTO2026

The Future of Obesity Management:
From Weight Loss to Health Gain



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Affiliations

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- Member of the Research Committee of the European Association for Endoscopic Surgery (EAES).
- Board Member of the European Chapter of the International Society of Fluorescence Guided Surgery (ISFGS).
- Editorial Board Member of “Obesity Surgery” journal.
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- Associate Editor of “Surgical Oncology, Frontiers in Surgery” journal.
- Associate Editor of “Journal of Robotic Surgery” (JORS).



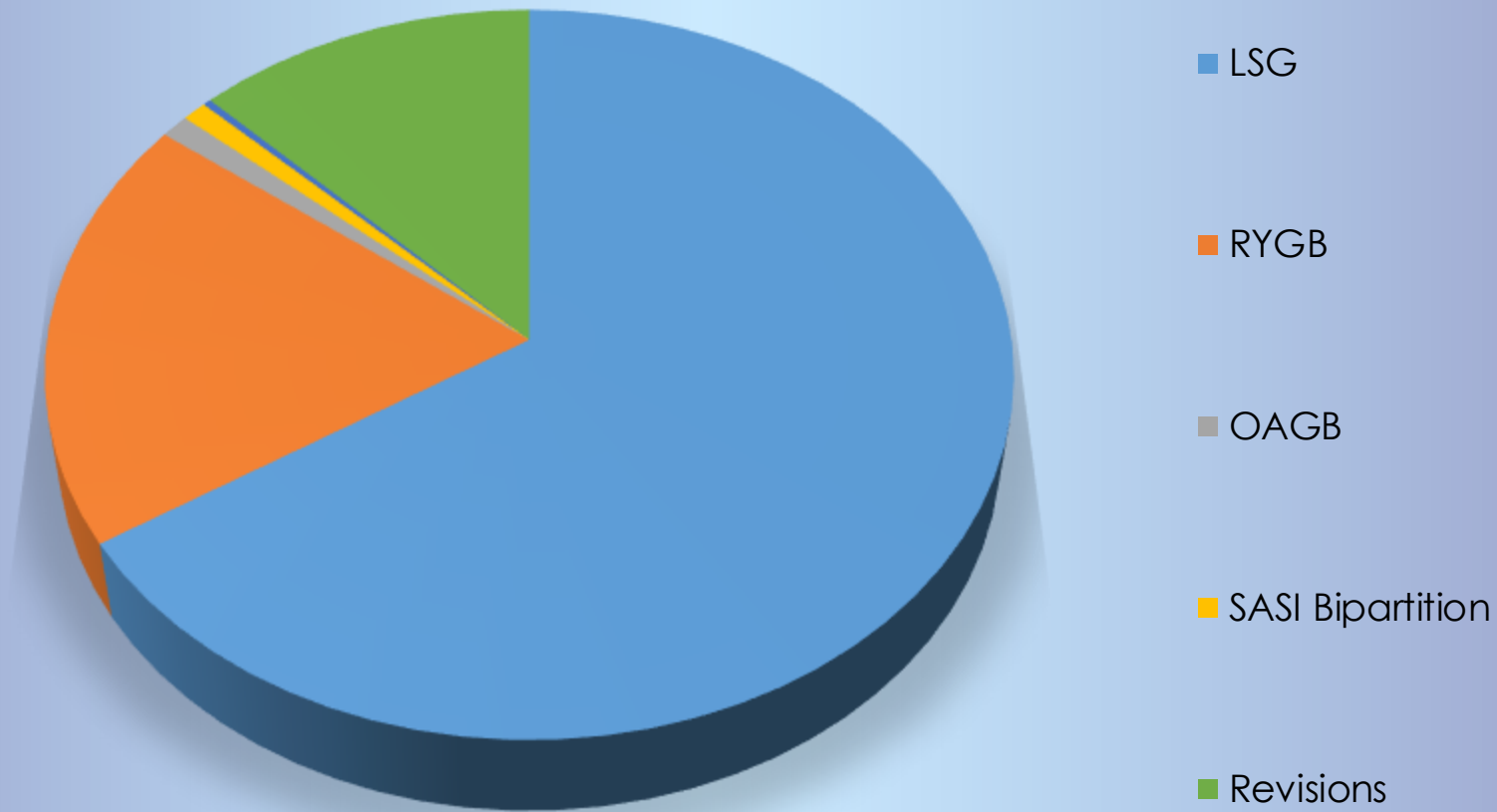
Disclosure Slide

	No, nothing to disclose
X	Yes, please specify:

Company Name	Honoraria/ Expenses	Consulting/ Advisory Board	Founded Research	Royalties/ Patent	Stock Options	Ownership/ Equity Position	Employee	Other (Please Specify)
Medtronic	X							
ORSI Academy	X							
Journal of Robotic Surgery								Associate Editor
Frontiers in Surgery								Associate Editor
Obesity Facts								Associate Editor



Case Mix Disclosure Slide



Authors & Participating Centers

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Introduction

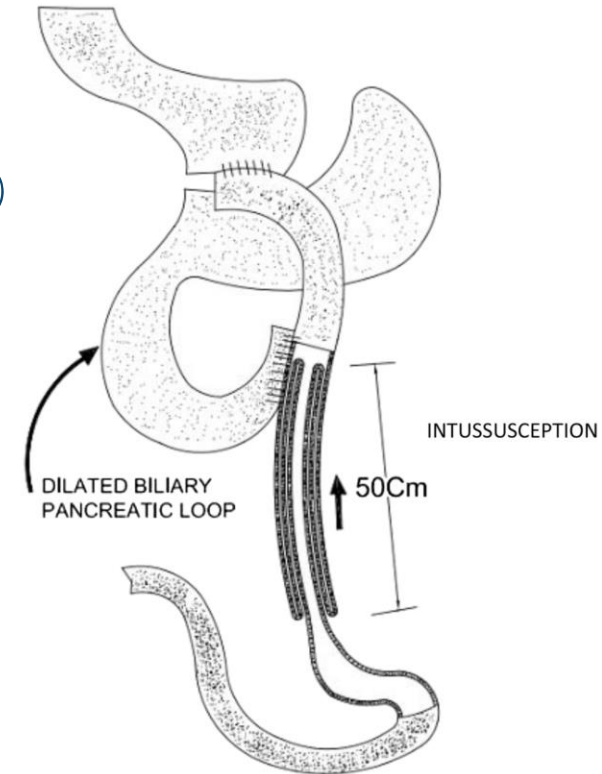
- Metabolic/bariatric surgery (MBS): primary treatment option for severe obesity.
- RYGB is a highly effective MBS procedure (2nd most common).
- BUT in RYGB → long-term complications exist.
- Jejunojejunal intussusception (JJI) = rare, under-recognized, potentially serious complication after RYGB.
- Despite its rarity, delayed diagnosis of JJI can lead to severe consequences.



Introduction – Clinical gap

- Incidence of JJI after RYGB → unclear
- Etiology
 - Altered intestinal motility after RYGB
(altered bowel anatomy + ectopic pacemakers in the Roux limb)
 - Dysmotility/disorganized peristalsis
 - Mesenteric laxity due to weight loss
 - Mechanical (sutures, staple lines, anchoring points)
- Presentation = **nonspecific !!!**
- No standardized management strategy.

This creates a critical need for synthesis of available evidence !!!



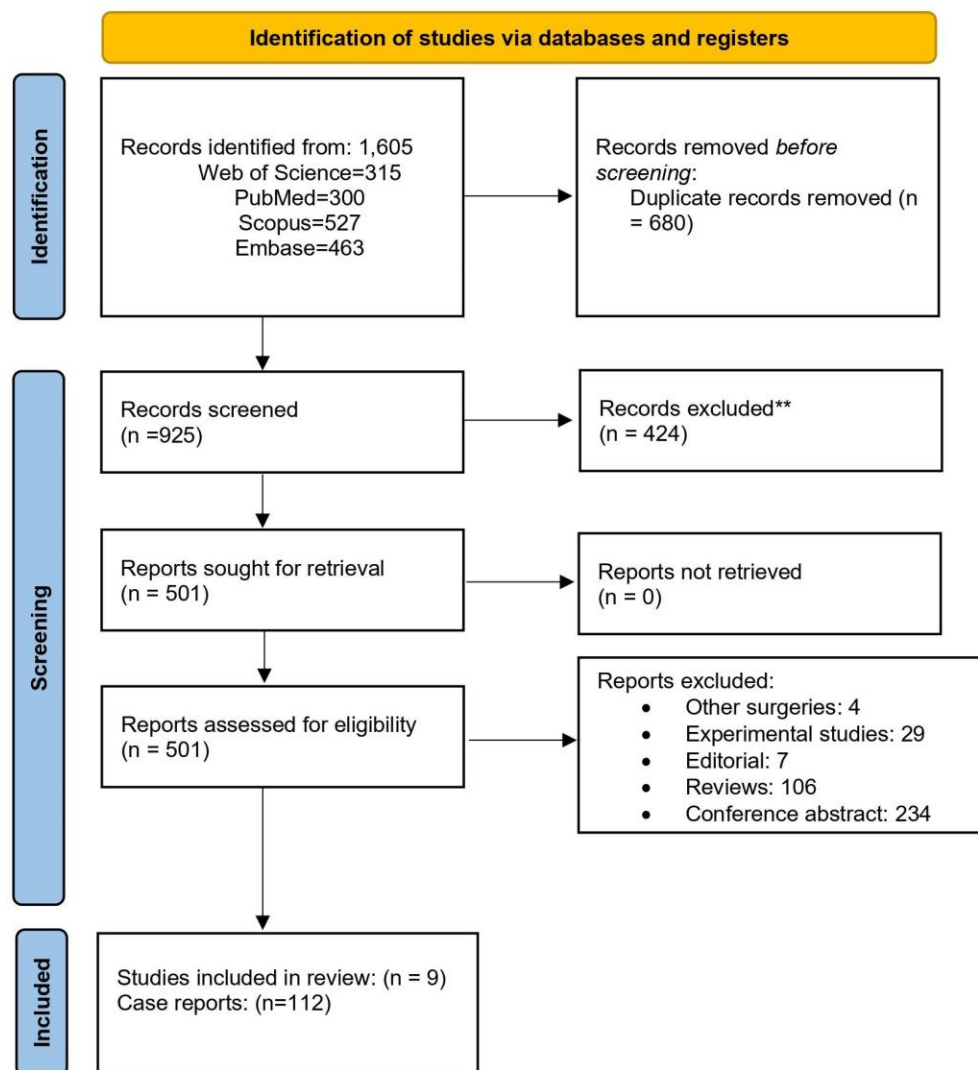
Aim of the study

The aim of this systematic review and meta-analysis was to evaluate the incidence, clinical presentation, diagnostic modalities, management strategies, and recurrence of JJI following RYGB to inform clinical practice and improve decision-making.



Methods

- PRISMA-guided systematic review and meta-analysis
Registration: PROSPERO (CRD420251081850)
- Databases: PubMed, Embase, Scopus, Web of Science
- Search period: Up to June 27, 2025
- Outcomes:
 - Incidence
 - Recurrence
 - Management



Methods

- Keywords: (“Intussusception” OR “Invagination” OR “Infolding” OR “Introversion”) AND (“Roux-en-Y” OR “gastric bypass” OR “Bypass” OR “bariatric” OR “Roux-en-Y Anastomosis” OR “RYGB” OR “LRYGB”).
- Manual reference screening performed.
- Data extraction: Performed by two independent reviewers (third reviewer for disagreements).
- Inclusion criteria: Studies reporting intussusception after RYGB with clinical outcomes.
- Exclusion criteria: Non-RYGB procedures, pediatric patients, missing outcome data.
- Quality assessment: Newcastle–Ottawa Scale
- Statistical analysis: Comprehensive Meta-Analysis (CMA v4); Heterogeneity: I^2 & Cochran’s Q; Meta-regression for recurrence predictors
Significance set at $p < 0.05$



Results – Included studies

Table 1 Baseline characteristics of included studies

Author	Country	Type of study	Sample size	Female/male	Number of intussusceptions	Age	BMI at RYGB
Simper et al., [11]	USA	Retrospective	15,553 RYGB and 330 SBO	23/0	23	32 (range: 20–50)	45.2 (range 39.4–55)
Varban et al., [8]	USA	Retrospective	2086	27/1	28	Median: 40	NR
Stephenson et al., [12]	USA	Retrospective	3022	11/1	12	39.2±9.6	47±4.4
Elms et al., [7]	USA	Retrospective	2414 RYGB and 93 SBO	NR	10	NR	NR
Zak et al., [23]	USA	Retrospective	934	NR	3	NR	NR
Orthopoulos [5]	USA	Retrospective	665	30/1	31	35.4±8.0	47.0±13.3
Poliakin et al., [4]	USA	Retrospective	2327	30/4	34	45.0±8.6	43.1±8.2
Stier [6]	Germany	Retrospective	47	41/6	47	43.09±9.46	35.26±6.27
Zaigham et al., [19]	Sweden	Retrospective	35	31/4	35	Acute: 40.65±9.82, Intermit- tent: 33.75±7.8, Incidental: 39.1±6.93	NR
Total	N/A	N/A	27,083	193 (91.9%)/17 (8.1%)	223	39.61	38.86

- 9 studies included
- N = 223 patients, 92% female
- Mean age: ~40 years



Results – Included studies

Table 2 Characteristics of RYGB in patients with intussusception

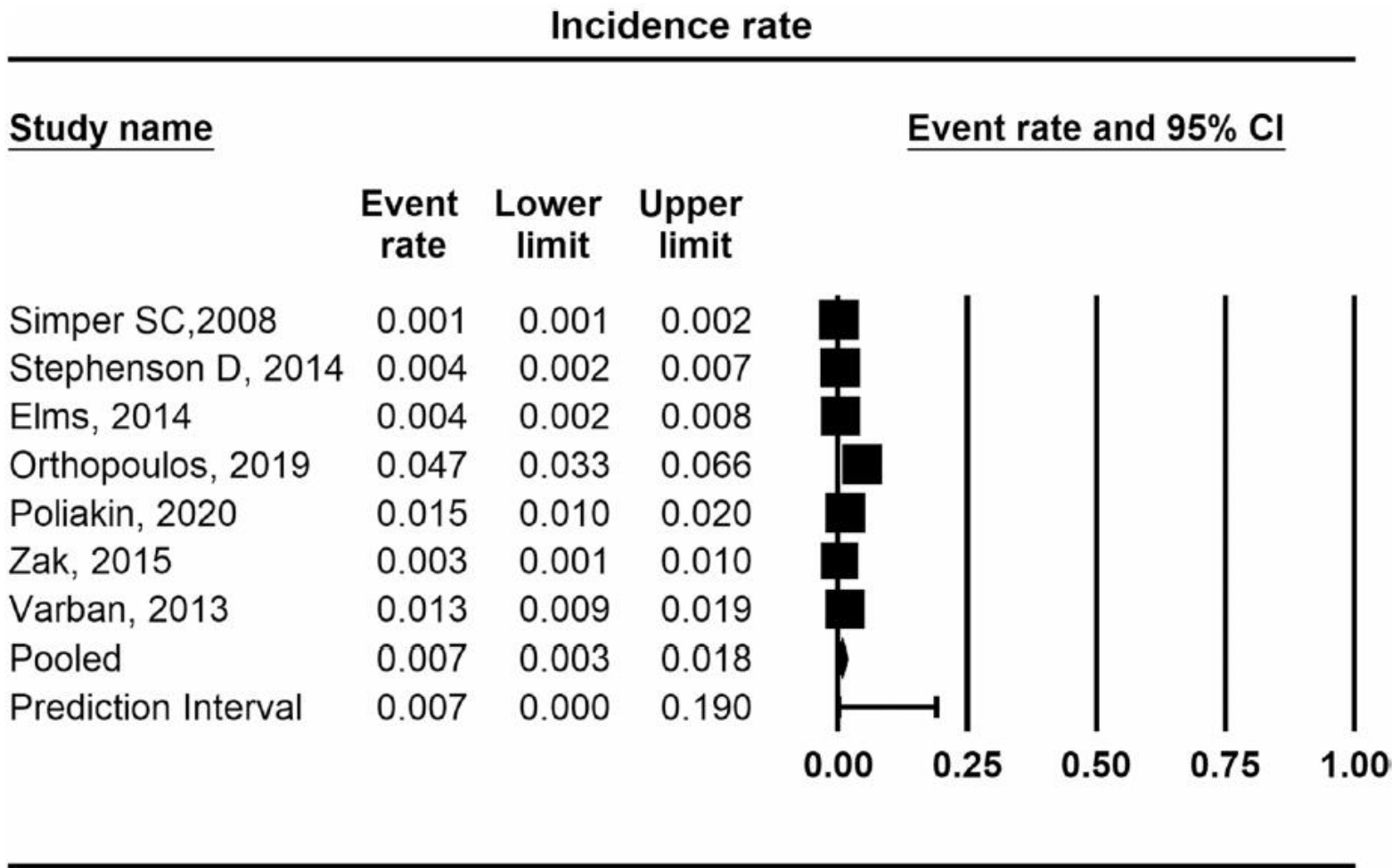
Author	BMI at Intussusception	JJ diameter	JJ Technique (Handsewn/Stapled)	AL Limb/ BP Limb	RYGB Characteristics (Open/lap/Robotic)	Interval after RYGB to Intussusception
Simper et al., [11]	NR	NR	NR	NR	4 lap, 18 open, 1 choledochojejunostomy	77 (range: 6–288 months)
Varban et al., [8]	27.5	NR	Stapled (75%), Handsewn (25%)	70–150/15–75 cm	Open ($n=14$, 50%)/lap ($n=14$, 50%)	52 months
Stephenson et al., [12]	31.1±4.3	NR	Stapled	75–100/50 cm	All lap ($n=12$)	24.9±26 months
Elms et al., [7]	47.7±7.1	Linear stapler Echelon Endopath 45 and 60	Linear stapler	75–150/40 cm	All lap, 13 of 2414 converted to open	20.9±18.1 months
Zak et al., [23]	NR	60 mm	Stapled	NR	All lap ($n=3$)	25 months
Orthopoulos [5]	31.4±9.6	$n=60$ (9%) the jejunojunostomy length 45 mm ($n=60$, 9%), 60 mm ($n=302$, 45.4%), 90 mm ($n=298$, 44.8%), 75 mm ($n=5$, 0.8%)	Linear stapler	NR	Lap ($n=26$, 83.9%), open ($n=4$, 12.9%), and robotic ($n=1$, 3.2%)	66.8±43.8 months
Poliakin et al., [4]	28.3±5.8	60 mm ($n=9$, 26.5%), 120 mm ($n=16$, 47%)	Linear stapler	100–150/50–100 cm	All lap ($n=34$)	5.5±4.3 years
Stier [6]	NR	NR	NR	NR	All lap ($n=47$)	26.45±11.12 months
Zaigham et al., [19]	Acute: 23.5±2.31, Intermittent: 29.35±5.48, Incidental: 26.75±3.46	NR	NR	NR	NR	Acute: 37.7±21.94, Intermittent: 34.8±19.92, Incidental: 43±29.45
Total	29.89	NA	NA	NA	Lap: 151 (80.7%), Open: 36 (19.3%)	48.25 months

Lap laparoscopic, RYGB Roux-en-Y gastric bypass, AL alimentary, BP biliopancreatic, NR not reported, N/A not applicable, JJ Jejunojunostomy

Mean onset:
 ~48 months post-RYGB



Results – Incidence



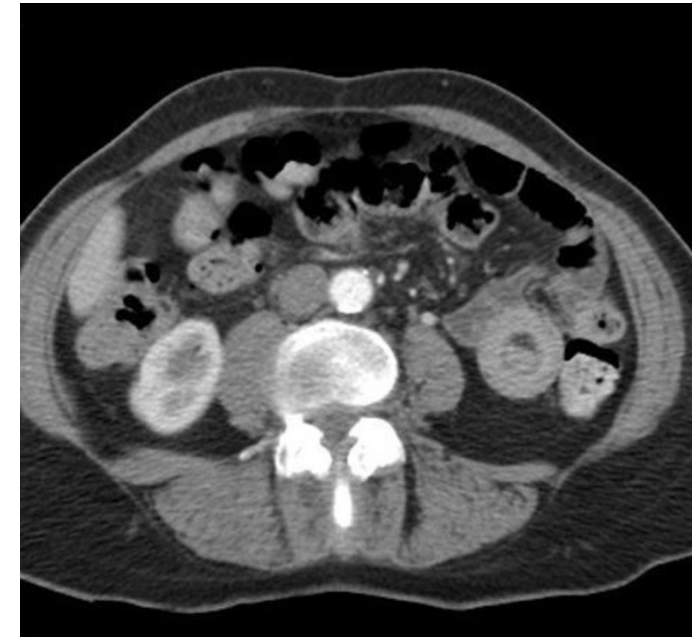
Incidence: 0.7%

(95% CI: 0.3–1.8%)



Results – Clinical insights

- Symptoms: Abdominal pain (99%), nausea/vomiting (50%), chronic pain (8%), distension (2.5%), peritonitis (1.2%)
- Diagnosis: CT scan (64%) → gold standard
- Diagnosis: upper GI series (28%), endoscopy (26%)
- Treatment: Laparoscopic surgery most common (92%)
Bowel resection (47%) or reduction (25%), enteropexy (14%), plication (3.8%)
- Most cases (84%) were retrograde jejunojejunal intussusception.

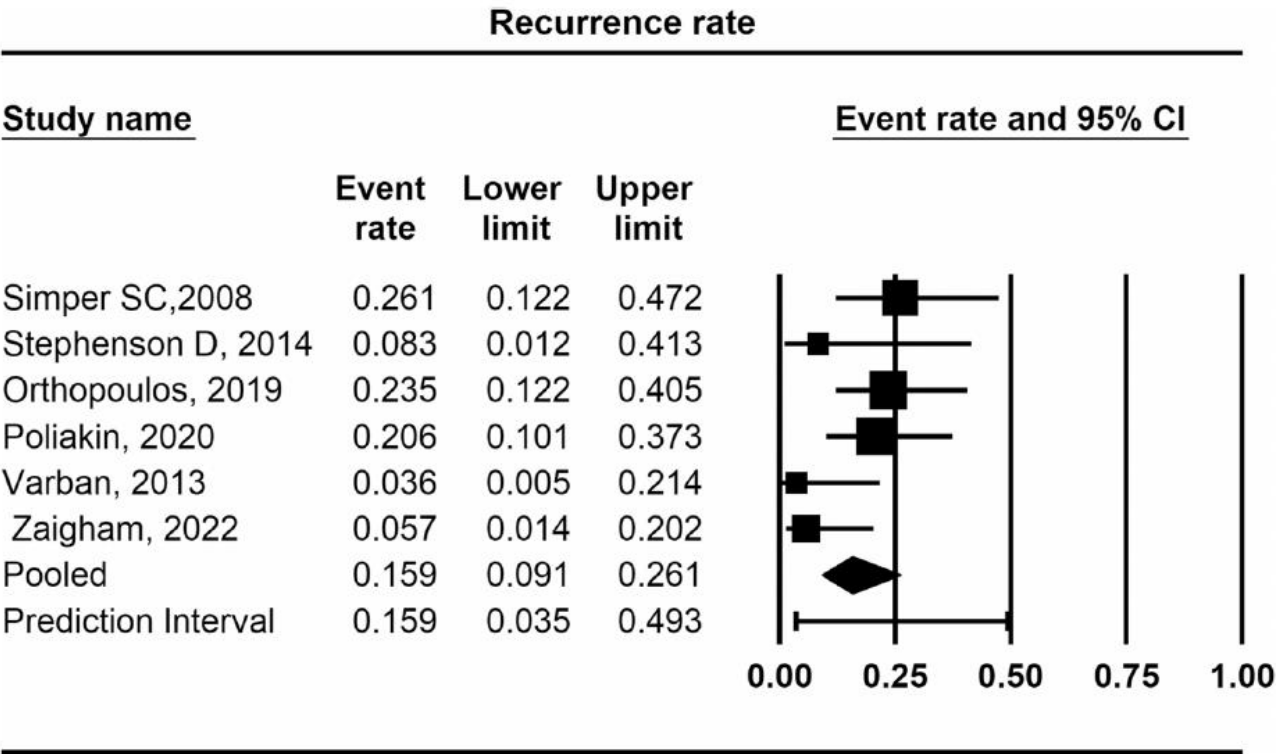


Results - Recurrence

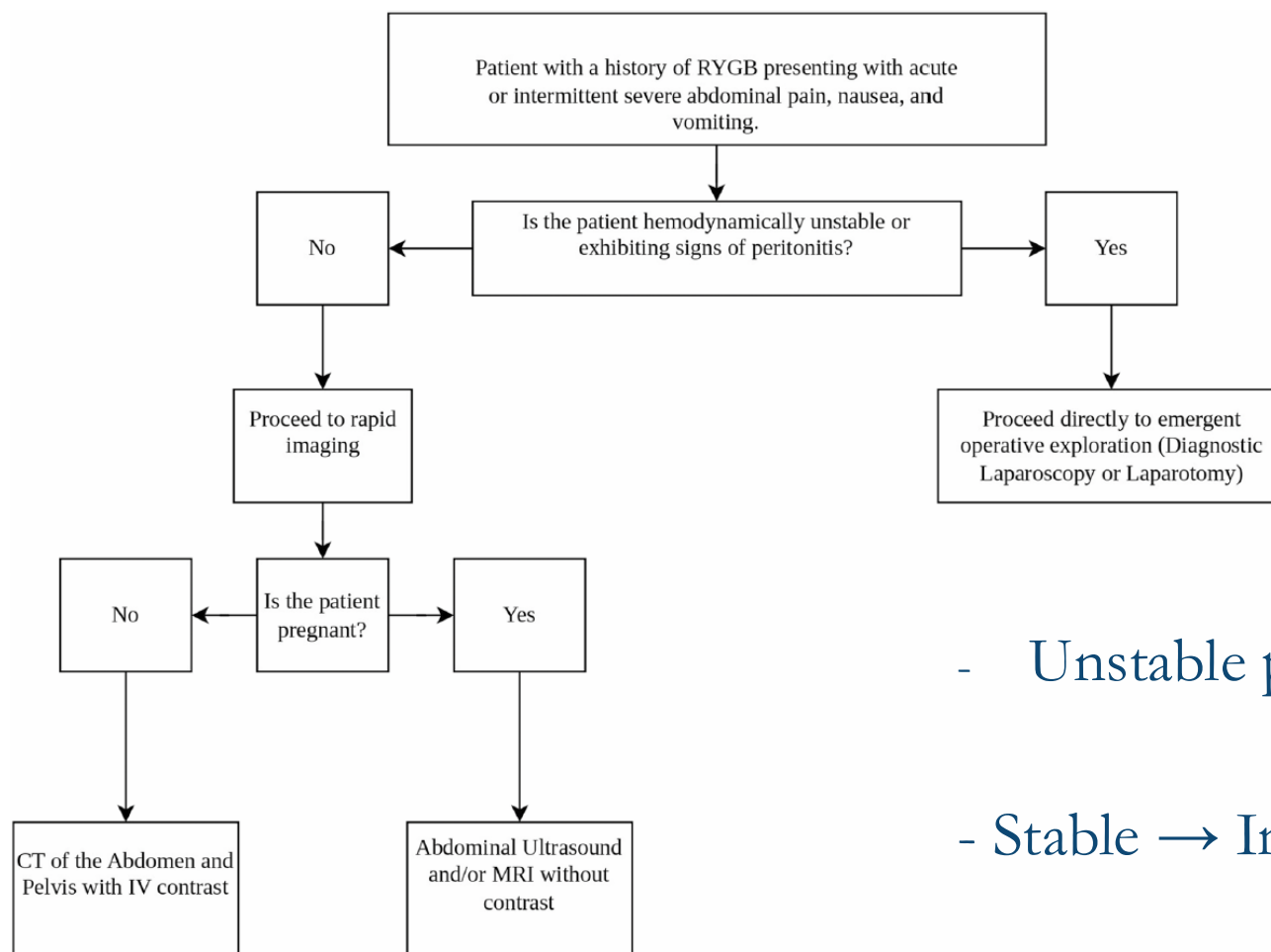
Recurrence: **15.9%**
(95% CI: 9.1–26.1%)

Mean time to recurrence:
~23 months

Recurrence is clinically
significant and not fully
understood



Proposed Evaluation Algorithm

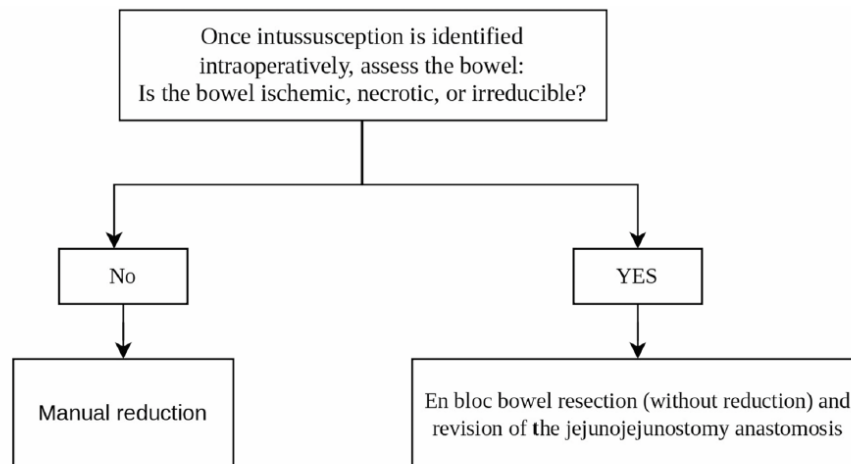


- Unstable patient → Immediate surgery
- Stable → Imaging (CT / MRI if pregnant)

Fig. 4 Approach to evaluating a patient suspected of intussusception following RYGB



Proposed Management Algorithm



- Ischemic bowel → Resection

- Viable bowel → Reduction

- Consider recurrence prevention (enteropexy, plication)

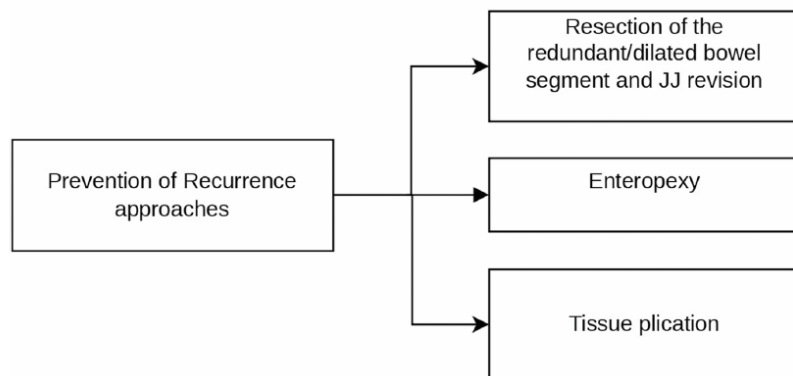
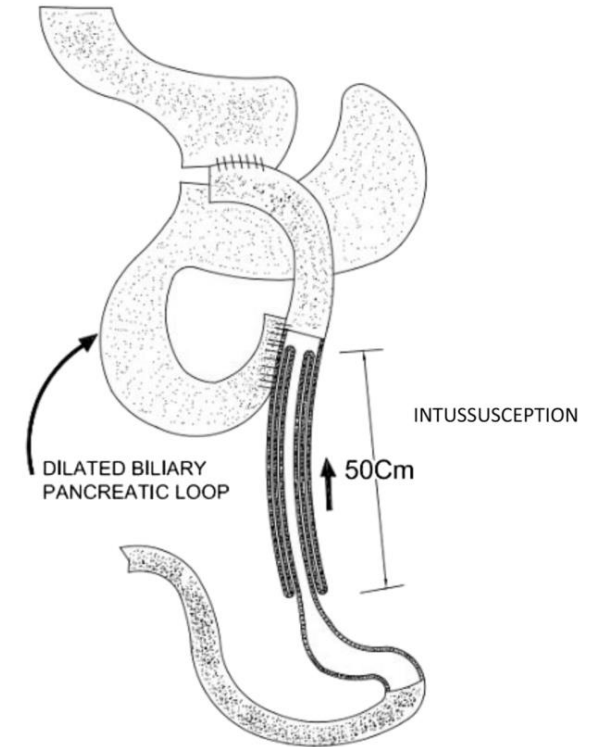


Fig. 5 Approach to manage a patient suspected of intussusception following RYGB



Conclusions

- ❖ Rare but important complication after RYGB → JJI requires high clinical suspicion.
- ❖ Occurs years later with nonspecific symptoms.
- ❖ Delayed & subtle presentation makes diagnosis challenging.
- ❖ CT scan = diagnostic standard → it guides management !!!
- ❖ Surgical intervention remains the cornerstone !!!
- ❖ Reduction if viable.
- ❖ Resection ± enteropexy if not.
- ❖ Recurrence is significant (~16%).
- ❖ Limited evidence → need for prospective studies.
- ❖ Future research is essential for standardized management.





Intussusception After Roux-en-Y Gastric Bypass for the Treatment of Severe Obesity: a Systematic Review and Meta-Analysis

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Abstract

Introduction Roux-en-Y gastric bypass (RYGB) is an effective bariatric procedure but may be complicated by rare yet serious adverse events, including jejunojejunal intussusception (JJI). This systematic review and meta-analysis aimed to evaluate the incidence, clinical presentation, diagnostic modalities, management strategies, and recurrence of JJI following RYGB to inform clinical practice.

Methods A systematic review was conducted in accordance with PRISMA guidelines. Studies reporting JJI after RYGB were identified and assessed for incidence, recurrence, and clinical outcomes. Study quality was evaluated using the Newcastle–Ottawa Scale. Pooled analyses were performed using Comprehensive Meta-Analysis software. Heterogeneity was assessed using Cochran’s Q and the I² statistic. Meta-regression analyses explored associations between clinical variables and recurrence risk.

Results Nine retrospective studies including 223 patients were analyzed, revealing 0.7% incidence of intussusception post-RYGB, mainly in females (91.9%), with an average age of 39.6 years, occurring on average 48.3 months postoperatively. Most were diagnosed by CT (64%) and treated surgically by laparoscopic resection (47.6%) or reduction (25.7%). Recurrence of JJI was reported in 15.9% of patients, with a mean time to recurrence of 22.9 months. Case reports ($n=112$) showed similar patterns but with greater weight loss and longer onset (72.2 months). Among pregnant patients ($n=19$), most underwent open surgery; outcomes were generally favorable, though 26.3% had preterm labor and one fetal death. Meta-regression found no significant recurrence predictors; longer time to onset trended towards higher risk ($p=0.08$).

Conclusions JJI is a rare, late complication of RYGB with a nonspecific presentation. CT remains the diagnostic standard; surgery, particularly laparoscopic resection, is the cornerstone of treatment overall.

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1–4 September 2026
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Prof. Dr. Panagiotis Lainas

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Ospedale Evangelico Betania, Naples, IT



Dr. Beniamino Pascotto

Centre Hospitalier de Luxembourg, LU



Dr. Miljana Vladimirov

University of OWL - Campus Lippe, DE



Training model

- Live animal tissue
- Simulation exercises



Certificates & credits

- Certificate of attendance by Orsi Academy
- Application has been made for CME credits



Date

- March 6-7, 2026



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& REGISTRATION



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