IFSO

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Long-Term Safety and Disease-Modifying Effects of Metabolic and Bariatric Surgery in Patients with Gout

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Bariatric, Foregut, and Flexible Endoscopic Surgery

Digestive Disease Institute | General Surgery

Cleveland Clinic Research | Microbial Sciences in Health

TORONTO2026

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

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TRANSPARENCY AND DISCLOSURE

Conflict of Interest

Jerry Dang, MD, PhD, FRCSC, FACS, FASMBS

Consultant SmartSleeveMD

No other relevant financial relationships. This study received no industry funding.

BACKGROUND

Gout and Obesity Are Metabolically Linked

~4%

of U.S. adults have gout, the most common inflammatory arthritis

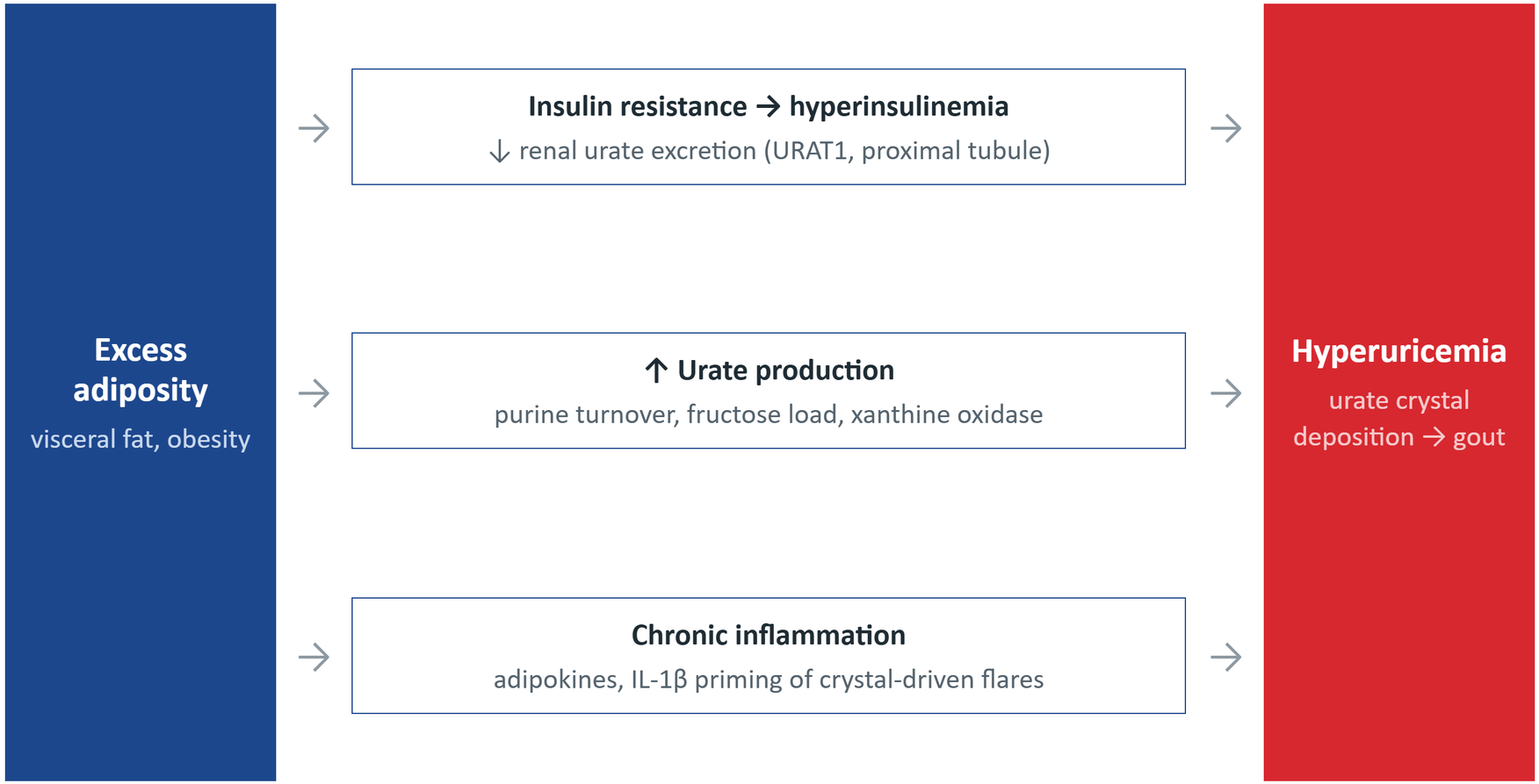
4–6%

gout prevalence among bariatric surgery candidates

1 in 3

candidates carry hyperuricemia at preoperative evaluation

HOW ADIPOSITY DRIVES URATE



Weight loss reverses each pathway, the rationale for metabolic and bariatric surgery as disease modification.

OBJECTIVES

Two Questions, Two Comparators

Large comparative data on postoperative complications, renal outcomes, medication burden, and procedure choice in patients with gout are lacking.

1 · Long-term safety

Does gout worsen long-term outcomes after MBS?

MBS with gout vs. MBS without gout

2 · Disease modification

Does MBS change the course of gout?

Gout with MBS vs. gout without MBS

Within the gout cohort, sleeve gastrectomy and Roux-en-Y gastric bypass were compared directly.

METHODS

Propensity-Matched TriNetX Cohort Study

DATA SOURCE

TriNetX Global Collaborative Network — de-identified EHR from more than 240 healthcare organizations, January 2010 to December 2025

POPULATION

Adults ≥18 years undergoing primary sleeve gastrectomy (CPT 43775) or Roux-en-Y gastric bypass (CPT 43644); gout by ICD-10 M10

MATCHING

1:1 nearest neighbor, caliper 0.1 SD, on demographics, comorbidities, BMI, renal labs and medications; balance at SMD <0.1

FOLLOW-UP

Outcomes assessed from 1 day after index through 5 years (1,825 days); median follow-up 4.0 years

Safety outcomes

Vitamin B and iron deficiency, protein-calorie malnutrition, osteoporosis, GI ulcer, GI bleeding, all-cause mortality, follow-up BMI

Disease-modifying outcomes

Serum uric acid, incident CKD, eGFR, creatinine, and new initiation of allopurinol, febuxostat, colchicine or systemic corticosteroids

Study Cohorts After Matching

Safety analysis

124,057

MBS patients screened

2,683
with gout (2.2%)

121,374
without gout

2,682 per group matched 1:1

Disease control analysis

1,588,900

gout patients screened

2,683
underwent MBS (0.2%)

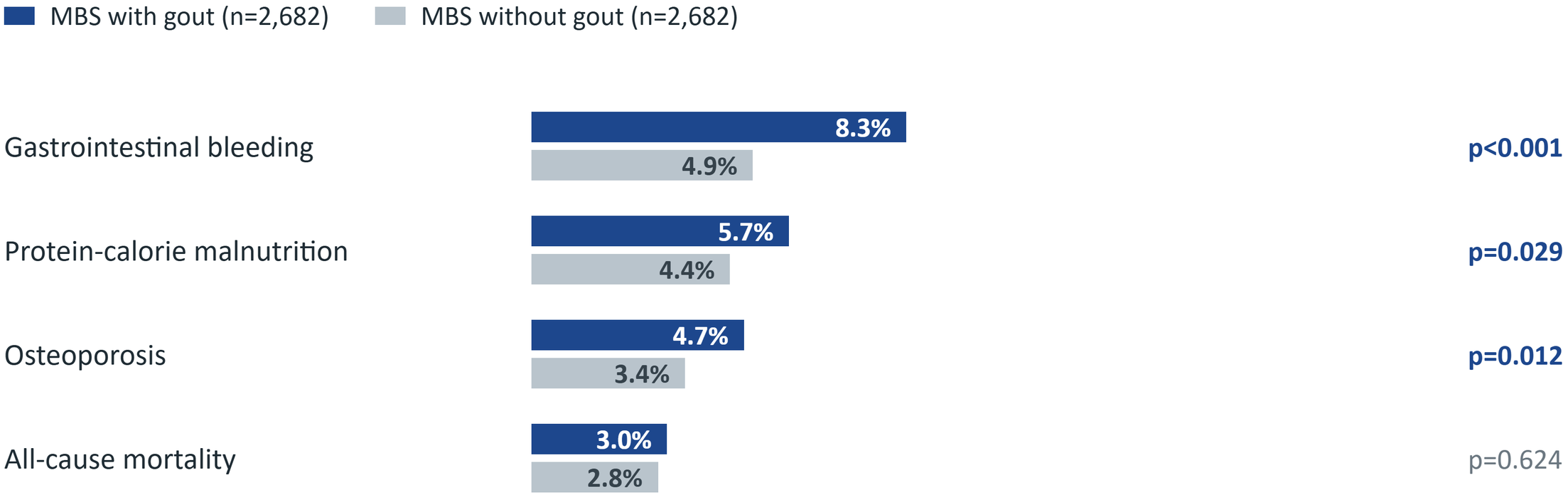
1.59M
non-surgical

2,674 per group matched 1:1

Median follow-up 1,458 vs. 1,302 days (safety) and 1,459 vs. 1,252 days (disease control)

SG vs. RYGB subgroup: 875 per group

Long-Term Safety: Gout vs. No Gout



No significant difference in vitamin B deficiency (16.2% vs. 14.4%), iron deficiency (8.9% vs. 8.3%) or GI ulcer (4.1% vs. 3.7%).

RESULTS

Urate and Renal Outcomes After MBS

Gout with MBS (n=2,674) vs. gout without MBS (n=2,674), median follow-up 4.0 years

SERUM URIC ACID

6.1 vs. 6.7

mg/dL · p<0.001

INCIDENT CKD

5.2% vs. 15.0%

new diagnosis · p<0.001

FOLLOW-UP EGFR

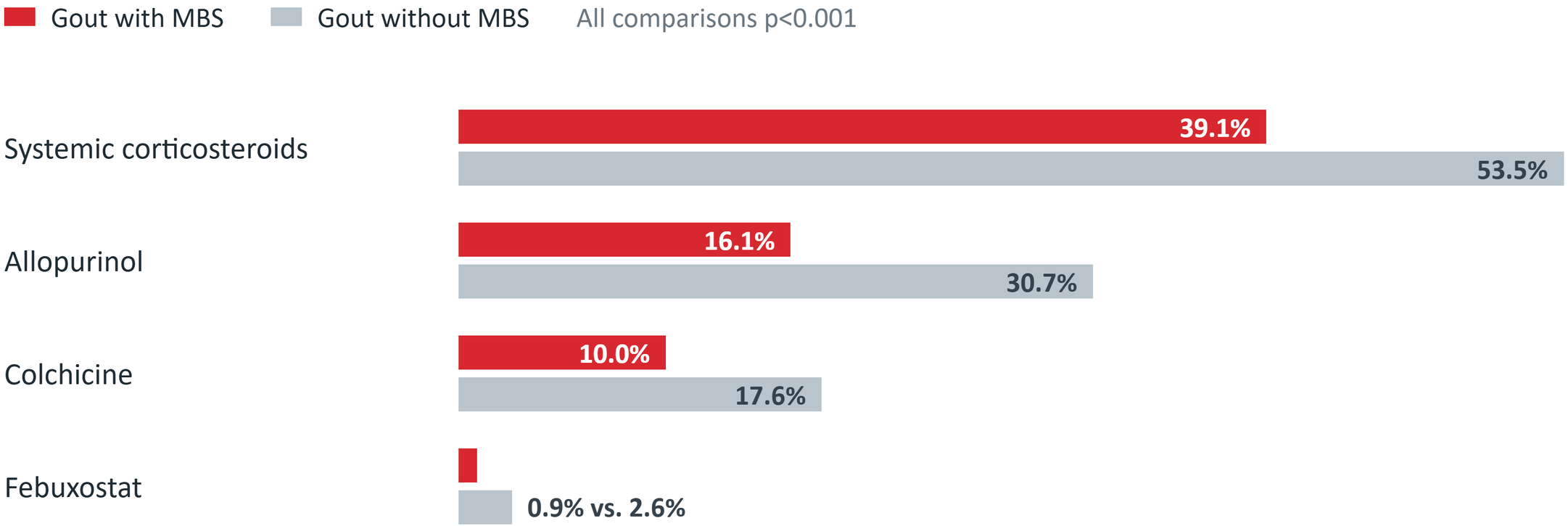
77.0 vs. 66.8

mL/min/1.73m² · p<0.001

Serum creatinine was modestly lower after MBS (1.4 vs. 1.7 mg/dL, p=0.013).

Residual post-match imbalance in baseline urate favored the non-surgical cohort, biasing against MBS.

New Gout Medication Initiation



Patients with pre-index exposure were excluded, so these represent incident prescriptions only.

RESULTS

Sleeve Gastrectomy vs. Gastric Bypass

Matched within the gout cohort, 875 per group

RYGB: greater metabolic effect

Uric acid, mg/dL	**5.8 vs. 6.2 · p=0.008**
eGFR, mL/min/1.73m²	**81.1 vs. 77.1 · p=0.005**
Follow-up BMI, kg/m²	**35.0 vs. 37.7 · p<0.001**

SG: more favorable safety

GI bleeding	**6.2% vs. 12.3% · p<0.001**
Malnutrition	**4.6% vs. 7.0% · p=0.031**
Gastrojejunal ulcer	**0% vs. 11.8% · p<0.001**

NSAIDs used for flare management predispose to marginal ulceration at the gastrojejunal anastomosis — a mechanism absent after SG. Mortality was similar (3.3% vs. 3.0%, p=0.681).

INTERPRETATION

Limitations

Observational design

Residual confounding, selection bias and coding inaccuracy persist despite propensity matching

Gout phenotype

ICD-10 M10 without subcodes cannot separate acute, chronic or tophaceous disease

Flares not codeable

Medication initiation is an indirect surrogate; postoperative NSAID and steroid continuation was unavailable

Weight loss granularity

Percent total weight loss was unavailable, so dose-response with gout control could not be tested

Differential follow-up

Longer follow-up in the MBS cohort (1,459 vs. 1,252 days) may asymmetrically affect event capture

Renoprotective agents

Higher baseline SGLT2 inhibitor and GLP-1 receptor agonist use in the MBS cohort may contribute to the renal benefit

CONCLUSIONS

What This Means for Practice

1. MBS improved gout control and renal outcomes without increased long-term mortality.
2. Gout should not be considered a contraindication to MBS; complication excess was modest and mortality unchanged.
3. RYGB delivered greater urate reduction; SG showed the more favorable safety profile.
4. For poorly controlled gout requiring ongoing anti-inflammatory therapy, SG may be preferred; RYGB remains reasonable when metabolic burden dominates.

Cleveland Clinic

Questions

Digestive Disease Institute, Cleveland Clinic

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