

# **Risk factors of acute gouty attack in the short term after bariatric surgery**

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# Content



**Hyperuricemia and Gout**



**Hyperuricemia and Metabolic syndrome**



**Gout and Metabolic syndrome**



**Gout after surgical procedures**



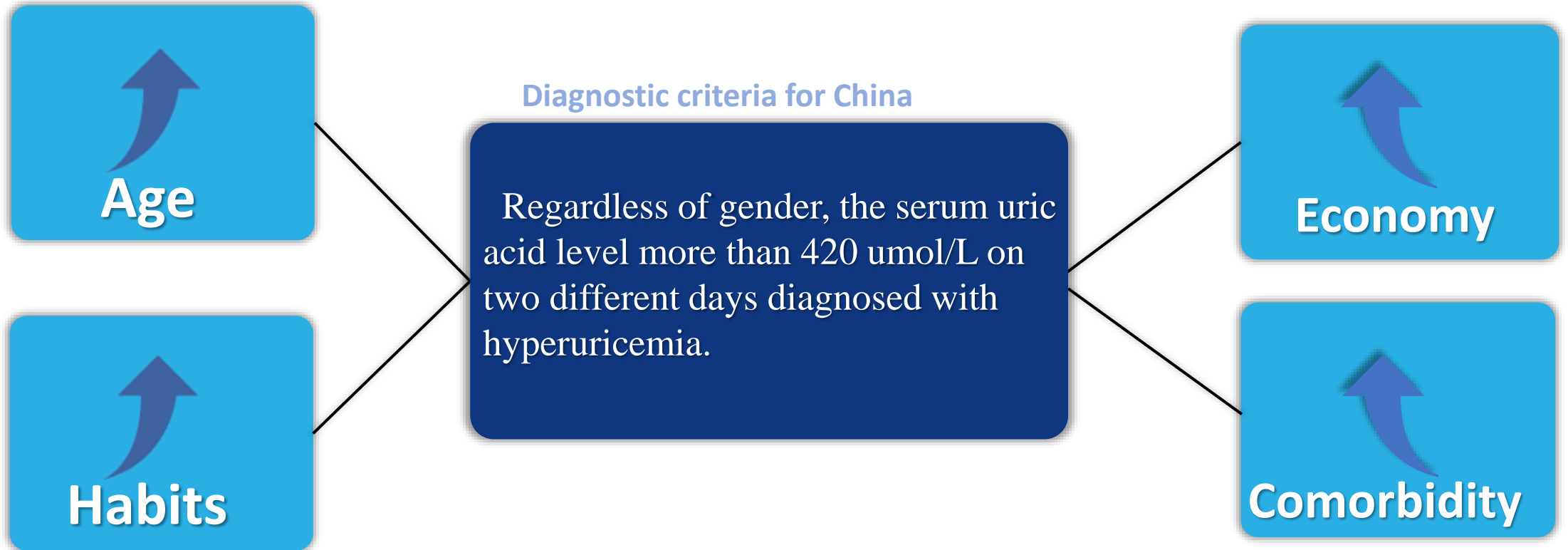
**Risk factors of gout after bariatric surgery**



**Discussion about the management and treatment of postoperative gout**



# Hyperuricemia

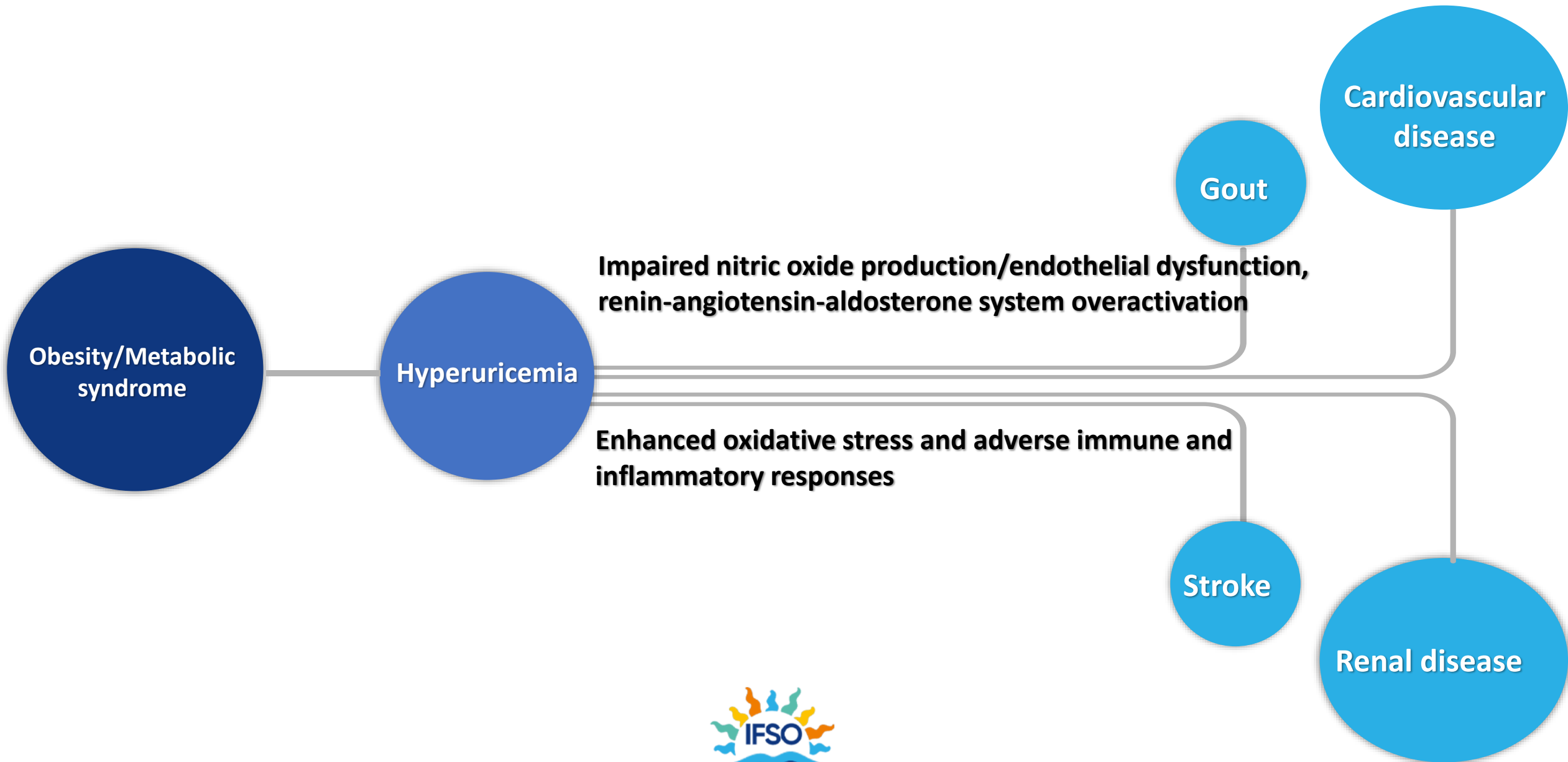


Hyperuricemia accounts for about **18.7%** of the total population in China, and the population is getting younger and younger year by year. According to previous studies, it is significantly correlated with **body mass index (BMI)**.

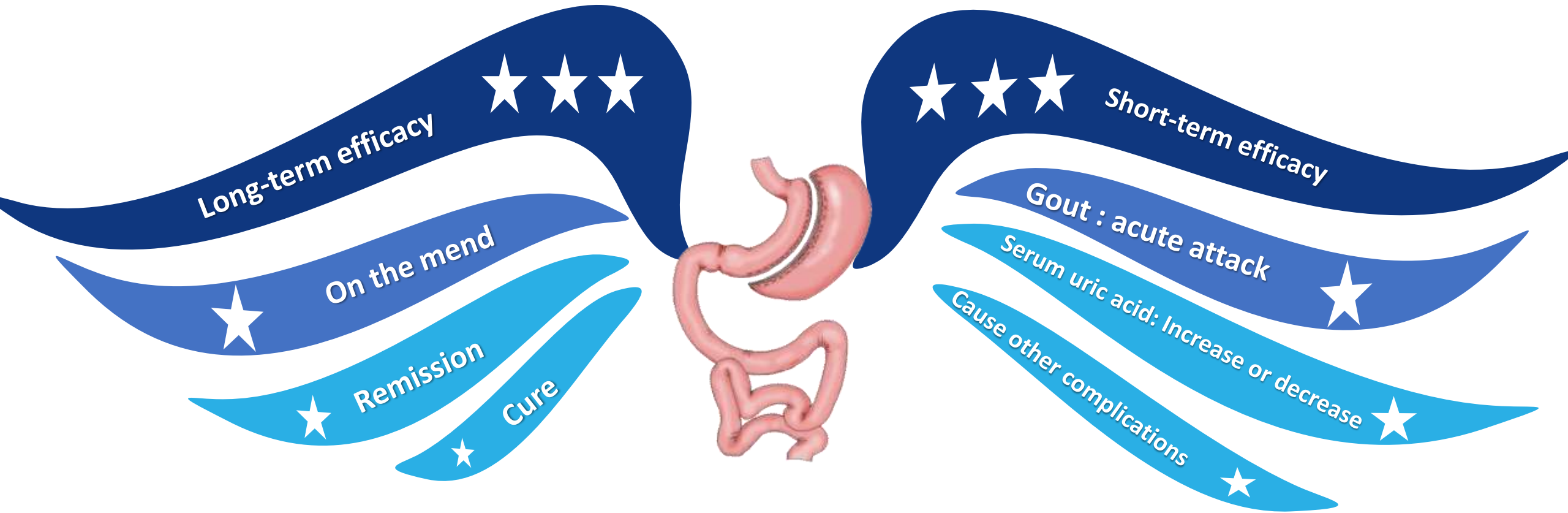
# Gout



The prevalence of metabolic syndrome was **62.8%** in patients with gout and **25.4%** in patients without gout.



# Efficacy of bariatric and metabolic surgery on hyperuricemia and gout



In addition to the damage to joint function and organic damage caused by sodium urate crystal deposition in the later stage, gout attack after surgery will also **increase the days in bed, the length of hospital stay** and **the use of antibiotics**, which is not conducive to the rapid recovery of patients, reduce the quality of life and satisfaction with surgery.

# Long-term efficacy

**1** Serum uric acid decreased significantly 3 months after bariatric surgery, and the decrease of BMI was significantly correlated with the decrease of serum uric acid level. The prevalence of HUA decreased from **9.5%** before surgery to **6%, 5% and 3%** at 1, 2 and 3 years after surgery, respectively.

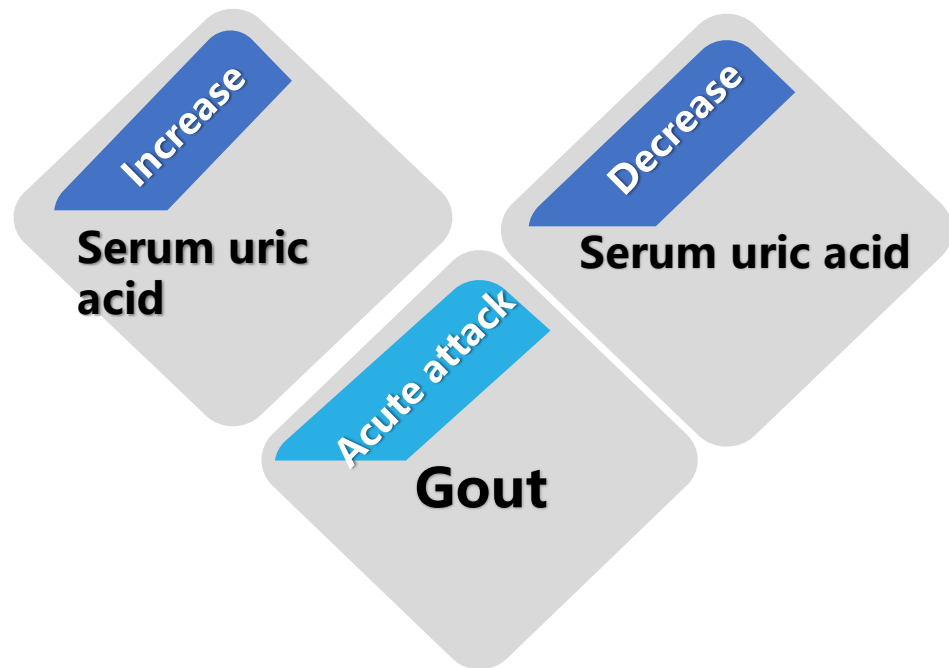
**2** The reduced incidence of gout after bariatric surgery is associated with weight loss.

**3**

From **23.8%** of patients with at least one occurrence 1 year before surgery, the incidence decreased to only **8%** 1 year after surgery.

# Short-term efficacy

- Parenteral nutrition
- Renal function
- Postoperative water intake



- Postoperative fasting
- catabolism
- Postoperative protein intake

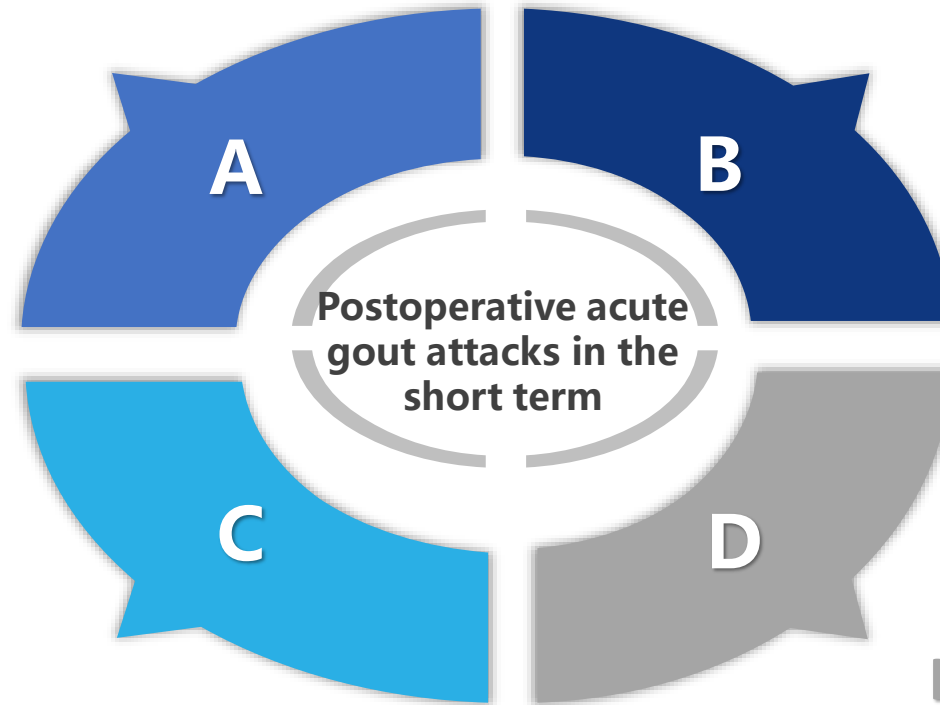
Patients with gout within 1 month after bariatric surgery are highly susceptible to sudden gout, with an incidence of about **33% to 40%**. The incidence of postoperative gout is **10** times higher than that of other upper abdominal surgeries



# What are the independent risk factors for gout attack in the short term after bariatric surgery?

Catabolism causes an increase in purine production ?

Decreased water consumption ?



Surgery caused systemic inflammatory response ?

High protein diet recommended after bariatric surgery ?



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# Experimental object

Patients who had been diagnosed with gout before admission or had a first gout attack diagnosed by a specialist after surgery

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Regular reexamination and follow-up were performed after operation

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Follow the doctor's advice on diet and exercise after operation



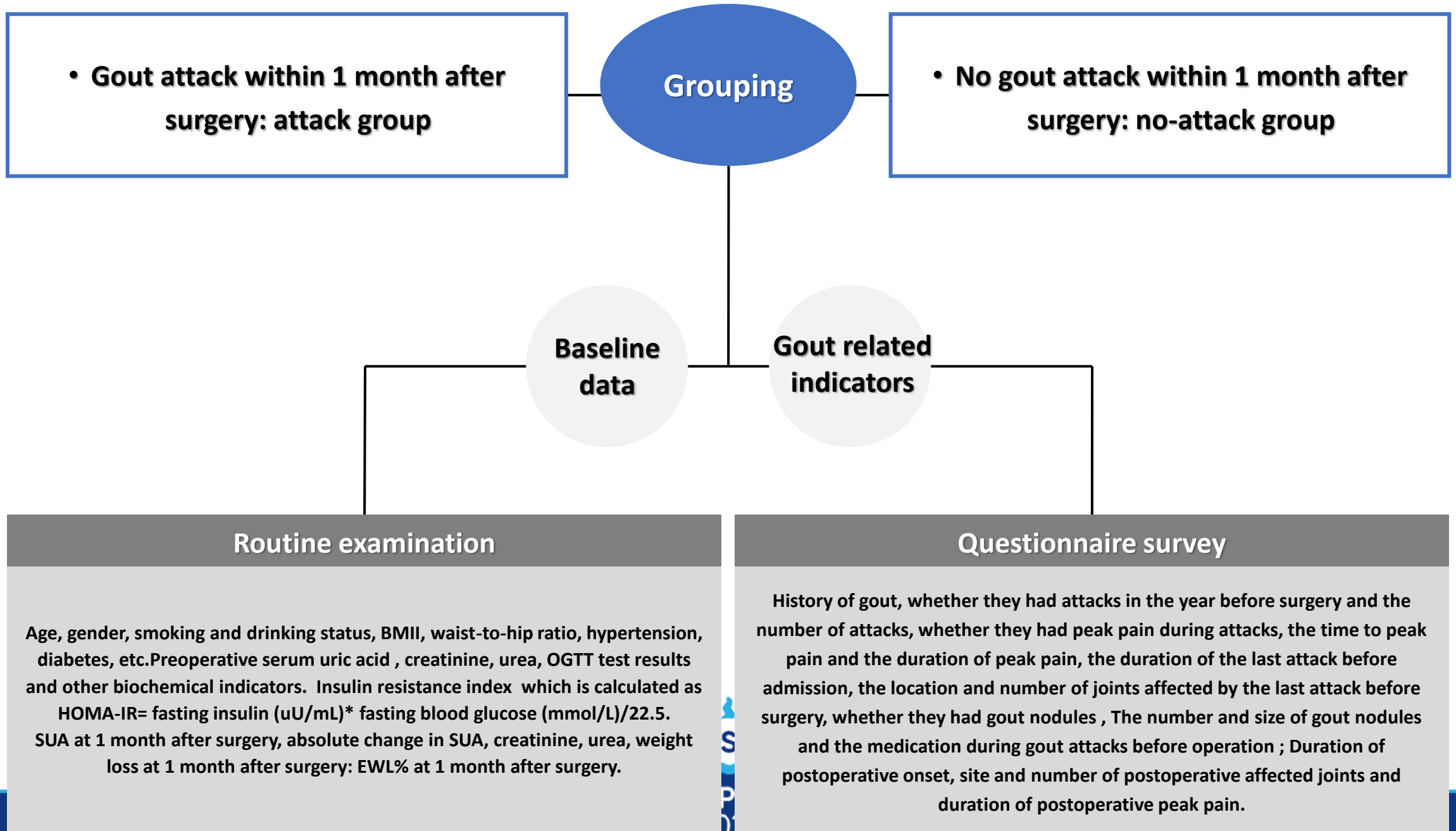
Patients were excluded if they were in a gout flare state on admission

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Patients who were lost to follow-up or did not cooperate with the follow-up examination were excluded

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Those with serious liver and kidney diseases, severe mental diseases and no independent behavior ability were excluded



# Statistical analysis results

## two groups of patients

- T test, chi-square test and Mann-Whitney test were used
- $P < 0.05$  : **C-peptide for 60min; the preoperative history of gout; number of attacks within 1 year before surgery; medication during the preoperative attack**

## and postoperative

- Paired T test
- $P < 0.05$  : **Postoperative peak pain is longer.**

## gout attack in the short

- Multiple Logistic analysis
- $P < 0.05$  : **Absolute change of uric acid within 1 month after surgery; number of attacks within 1 year before surgery**

The absolute value of serum uric acid change was high within 1 month after operation ; Vigorous insulin secretion was observed 1 hour after ingestion

There were many kinds of drugs taken before operation



- Mainly young and middle-aged men, all were centripetal obese with insulin resistance

- Preoperative long history of gout and occurred frequently in the year before surgery

- Single joint attack ,the lower limbs are dominant and the ankle joints are most common. The involved joints are significantly correlated with those previously involved

- LSG is the mainstream and more than half of the patients have attacked within one week after operation

# Discussion

## Management and Treatment Future Exploration

In the postoperative diet guidance for such patients, a more scientific and reasonable low-purine diet scheme should be used



Clinicians need to more accurately determine which patients are prone to recurrence after surgery, and take measures before surgery to avoid its occurrence



Gout attacks not only brings pain to the patient after the operation, also can increase the bed time, causing more serious adverse complications



The types and dosages of drugs that should be used during the perioperative period



The exact pathogenesis of postoperative gout attack



More in-depth, comprehensive, multi-center and large-sample clinical research

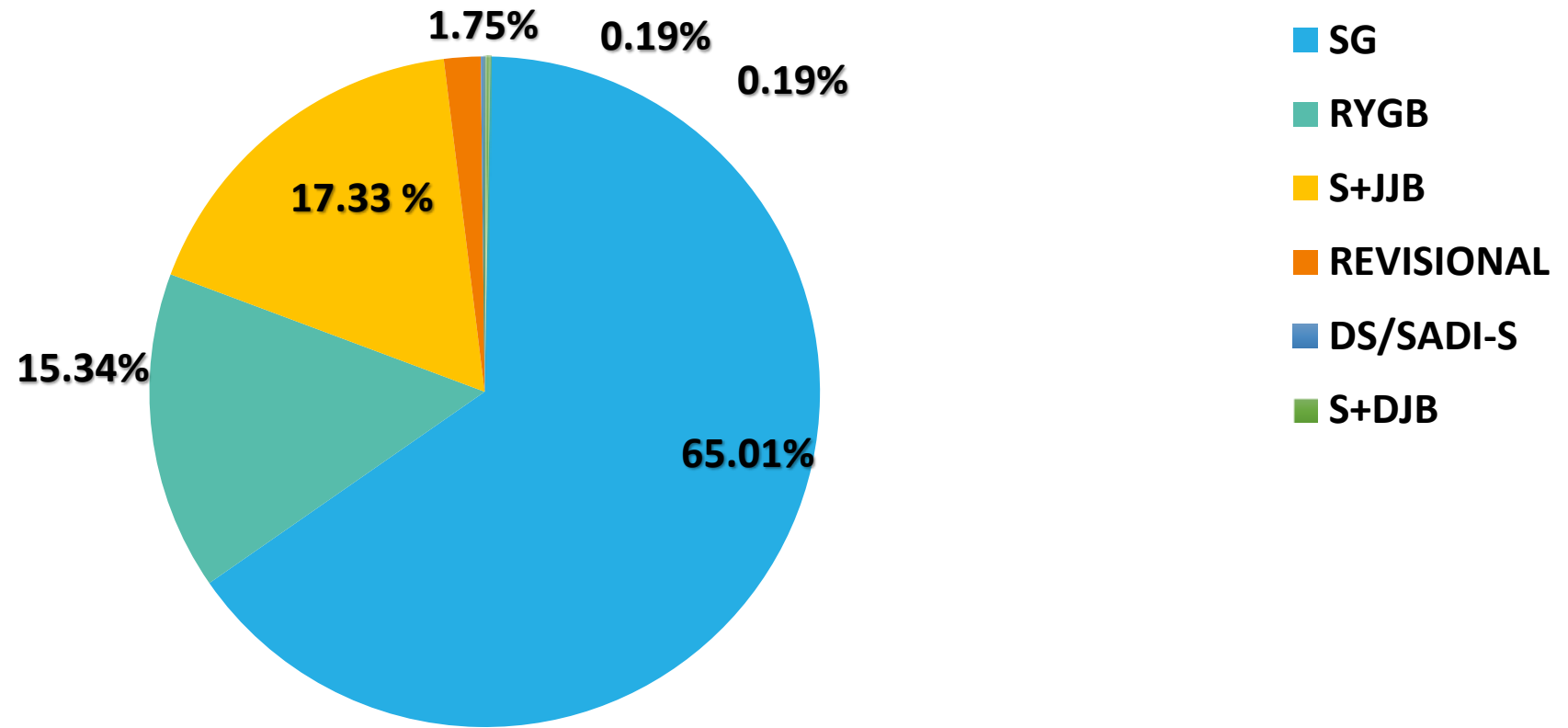
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CASE MIX DISCLOSURE



**TOTAL : 2157** cases bariatric surgery





**Thank you for listening!**

