# Laparoscopic sleeve gastrectomy(LSG) vs GLP-1 receptor agonists(GLP-1 RAs) in morbidly obese patients with insulin resistance:A prospective cohort study

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

## Background & Objective

- Different treatments are available for obesity management, including lifestyle interventions, pharmacological therapies, endoscopic interventions, and surgeries.
- Limited evidence is available on the weight loss effect and improvement of insulin resistance in LSG or GLP-1 RAs.
- Compare the weight loss effect and metabolic changes of LSG and GLP-1 RAs in morbidly obese patients with insulin resistance.

## Methods

- A prospective cohort study
- LSG group or GLP-1 RAs group
- Follow-up for 6 months
- Primary endpoints: **EWL%** (Excess Weight Loss) and **changes of HOMA-IR** (Homeostatic Model Assessment for Insulin Resistance)

## Results

**80** patients were enrolled, **9** were excluded, and the final **71** obese patients were entered into the study and analyzed,**LSG group(N=36),GLP-1 RAs group**(weekly subcutaneous injections of Semaglutide) **(N=35).**

| Table 1. Primary endpoints at 6 months | | | |
|---|---|---|---|
| | LSG(N=36) | GLP-1RAs(N=35) | p Value |
| EWL(%) | 88.22±22.22 | 69.23±23.13% | 0.001 |
| HOMA-IR Change from baseline | 5.50±4.36 | 3.11±2.30 | 0.006 |

| Table 2. Adverse events and complications through 6 months | | | |
|---|---|---|---|
| | LSG(N=36) | GLP-1RAs(N=35) | p Value |
| Acid reflux | 15（41.7%） | 3（8.6%） | 0.001 |
| Dizziness | 18（50.0%） | 7（20.0%） | 0.008 |
| Alopecia | 18（50.0%） | 8（22.9%） | 0.018 |
| Anorexia | 36（100%） | 26（74.3%） | 0.001 |

## Conclusion

In morbidly obese patients with insulin resistance,both the weight loss effect and the improvement in insulin resistance,LSG is more effective than GLP-1 RAs.

# Thank you for your attention!