

# Impact of metabolic surgery for DM patients with BMI less than 35 on health-related quality of life and quality of alimentation

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## Quality of alimentation (food satisfaction)

Deterioration of food tolerance is highly likely in bariatric surgery due to gastric restriction.

On the other hand, patients with severe DM who seek for metabolic surgery may show poor satisfaction to quality of alimentation, since they may already be placed in a strict caloric restriction as part of their medical treatment regimen.

## OBJECTIVES

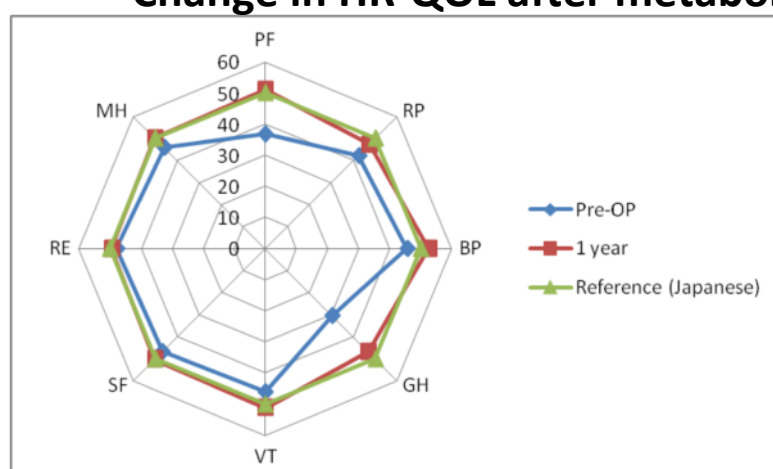
To investigate the impact of metabolic surgery for diabetic patients with BMI <35 on HR-QOL, food tolerance and food satisfaction in a single institution.

## METHODS

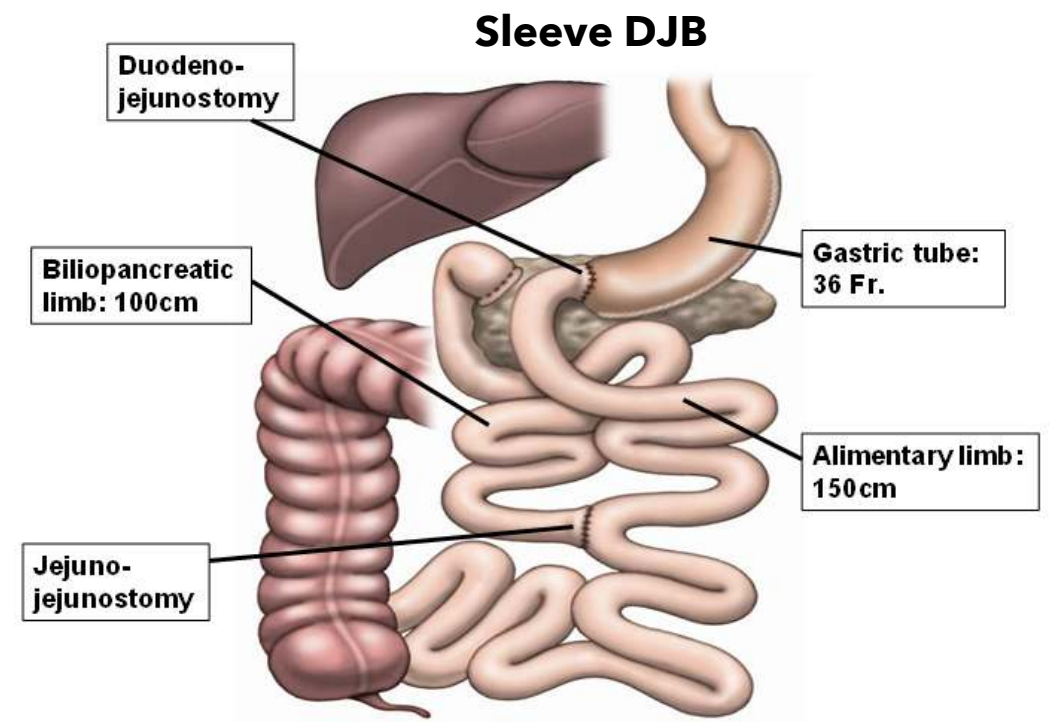
Consecutive 51 diabetic patients who underwent LSG-DJB and were followed up at least 1 year were enrolled.

HR-QOL was measured by the SF-36 before and 1 year after surgery. Questionnaires regarding food satisfaction, food tolerance and caloric intake were also conducted.

## Change in HR-QOL after metabolic surgery (SF-36)



\*PF (physical functioning), RP (role physical), BP (bodily pain), GH (general health), VT (vitality), SF (social functioning), RE (role emotional), MH (mental health)



## Baseline Characteristics

| Parameter                                  | Value              |
|--|--------------------|
| Age  | 46.5±8.1           |
| Gender                                     | Male 27, Female 24 |
| Body Weight (kg)                           | 89.1±11.9          |
| BMI (kg/m <sup>2</sup> )                   | 31.7±2.2           |
| Duration of T2DM (year)                    | 9.0±6.1            |
| HbA1c (% , 1 <sup>st</sup> visit)          | 9.0±1.5            |
| FBS (mg/dL, 1 <sup>st</sup> visit)         | 196±69             |
| Fasting C-peptide (ng/mL)                  | 3.0±1.0            |
| Type of DM treatment Life style(number, %) | 1 (2.0%)           |
| OA   | 22 (43.1%)         |
| insulin                                    | 10 (19.6%)         |
| OA+Insulin                                 | 18 (35.3%)         |

## Glycemic control @ 1year

|                                    | Pre-OP      | After 1 year  | P-value |
|------------------------------------|-------------|---------------|---------|
| <b>HbA1c&lt;6% without meds</b>    | 0/51 (0%)   | 16/46 (34.8%) | P<0.001 |
| <b>HbA1c&lt;6.5 % without meds</b> | 0/51 (0%)   | 24/46 (52.2%) | P<0.001 |
| <b>HbAc&lt;7%</b>                  | 1/51 (2.0%) | 33/46 (71.7%) | P<0.001 |

## Quality of alimentation

|   | Pre-OP   | After 1 Year | P value           |
|---|----------|--------------|-------------------|
| <b>Food (caloric) intake (kcal/day)</b> | 2679±952 | 1346±483     | <b>P&lt;0.001</b> |
| <b>Food tolerance score</b>             | 21.6±0.6 | 18.7±3.9     | <b>P&lt;0.001</b> |
| <b>Food satisfaction</b>                | 3.0±1.1  | 3.5±1.1      | <b>P=0.0015</b>   |

## CONCLUSION

In mildly obese patients associated with severe diabetes who underwent LSG-DJB, marked amelioration in glycemic control was observed and, although the amount of food intake and food tolerance were affected, the overall HR-QOL as well as food satisfaction improved significantly.

## Clinical factors affecting HR-QOL@1yr

| Factor  | Category                      | P-value                              |
|---|-------------------------------|--------------------------------------|
| <b>Remission of DM (A1c&lt;6.5% without meds)</b> | Yes/No                        | <b>GH (p=0.0048)</b>                 |
| <b>Readmission</b>                                | Yes/No                        | <b>PF (p=0.031)<br/>RP (p=0.044)</b> |
| <b>Insulin required@1yr</b>                       | Yes/No                        | <b>GH (p=0.036)</b>                  |
| BMI@1yr   | BMI<22<br>22<BMI<25<br>25<BMI | N.S.                                 |
| HbA1c@1yr   | <7%<br>7-8%<br>8%<            | N.S.                                 |

