



## INTRODUCTION AND OBJECTIVE

Bariatric surgery has considerably developed in France over the last fifteen years, and in certain cases the need of revisional surgery (failure to lose weight, complications, etc.). However, benefits of revisional bariatric surgeries is poorly studied in patients with diabetes mellitus.

**The objective of this study is to assess impact of revisional bariatric surgeries on Antidiabetic Treatments.**

## METHOD

**Historical cohort built from retrospective data of the French nationwide healthcare database (SNDS):**

Inclusion of all patients with a first bariatric surgery performed between 2012 and 2014 (01/01/2012 - 31/12/2014) and followed until 2017 (31/12/2017).

Revisional bariatric surgery included:

- Sleeve Gastrectomy (SG) or Calibrated Vertical Gastroplasty (GVG)
- Gastric By-Pass (GBP),
- Adjustable Gastric Banding (AGB) remained anecdotal
- Biliopancreatic diversion +/- Duodenal switch (BPD+/-SD)

**Analysis of the evolution of the number of diabetic patients, and the impact of a revisional bariatric surgery on the reimbursement of associated treatments (monotherapy, bi/tritherapy, insulin) was conducted here.**

## RESULTS

### ➔ Before the revisional surgery

During the follow-up period : 4.3% of patients (n= 4 836) had at least one revisional surgery and among them, 8% (n=368) were diabetics:

- 39% treated with monotherapy, 32% treated with bi/tritherapy and 30% with insulin

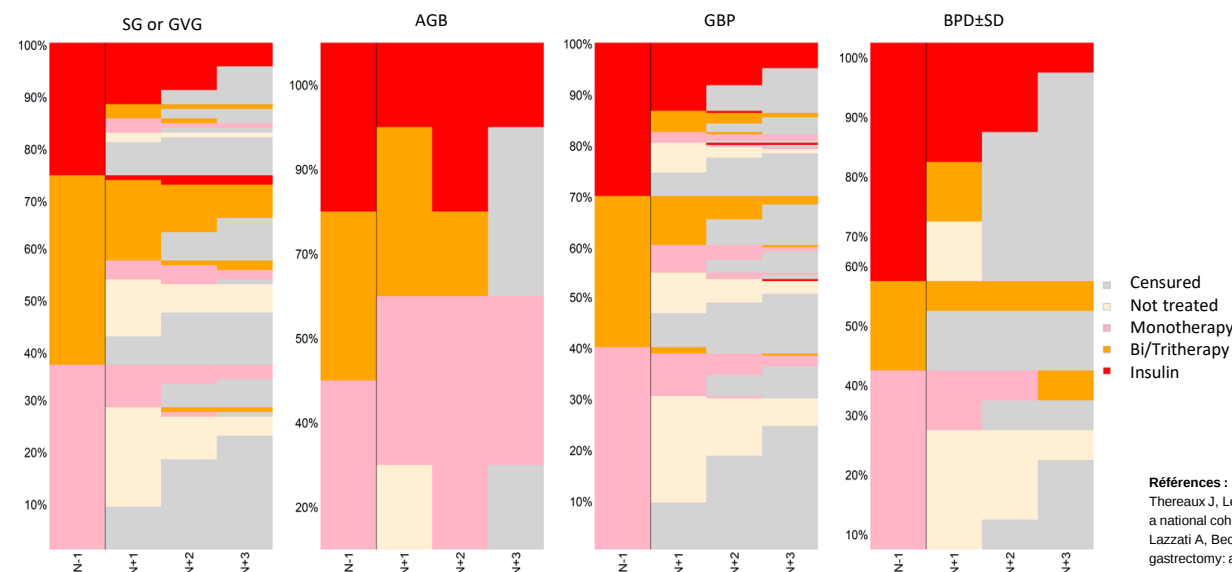
### ➔ Table 1 : Statut of antidiabetes treatment before revisional surgery depending on type of revisional surgery

| Antidiabetes treatments before revisional surgery | Overall<br>N=4836 | SG or GVG<br>N=1923 | AGB<br>N=151 | GBP<br>N=2627 | BPD±SD<br>N=135 |
|---------------------------------------------------|-------------------|---------------------|--------------|---------------|-----------------|
| Without diabetes n(%)                             | 4468 (92.4)       | 1816 (94.4)         | 145 (96)     | 2389 (90.9)   | 118 (87.4)      |
| Monotherapy n(%)                                  | 142 (2.9)         | 39 (2)              | 2 (1.3)      | 95 (3.6)      | 6 (4.4)         |
| Bi/tritherapy n(%)                                | 116 (2.4)         | 40 (2.1)            | 2 (1.3)      | 71 (2.7)      | 3 (2.2)         |
| Insulin n(%)                                      | 110 (2.3)         | 28 (1.5)            | 2 (1.3)      | 72 (2.7)      | 8 (5.9)         |

### ➔ Table 2 : Antidiabetes treatments evolution before and after the revisional bariatric surgery depending on surgery type for patient treated before the revisional surgery.

| Antidiabetic treatments evolution after the revisional bariatric surgery |                                        | Overall    | SG or GVG | AGB      | GBP       | BPD±SD   |
|--------------------------------------------------------------------------|----------------------------------------|------------|-----------|----------|-----------|----------|
| Patients with antidiabetic treatments before revisional surgery          | Treatment cessation n(%)               | 125 (42.4) | 35 (41.2) | 1 (16.7) | 83 (43.9) | 6 (40)   |
|                                                                          | Treatment reduction n(%)               | 42 (14.2)  | 10 (11.8) | 2 (33.3) | 28 (14.8) | 2 (13.3) |
|                                                                          | Treatment maintenance or increase n(%) | 128 (43.4) | 40 (47.1) | 3 (50)   | 78 (41.3) | 7 (46.7) |
| Patient treated with monotherapy before revisional surgery               | Treatment cessation n(%)               | 76 (68.5)  | 21 (70)   | 1 (50)   | 50 (68.5) | 4 (66.7) |
|                                                                          | Treatment maintenance or increase n(%) | 35 (31.5)  | 9 (30)    | 1 (50)   | 23 (31.5) | 2 (33.3) |
| Patient treated with bi/tritherapy before revisional surgery             | Treatment cessation n(%)               | 31 (33.7)  | 12 (35.3) | 0        | 19 (34.5) | 0        |
|                                                                          | Treatment reduction n(%)               | 18 (19.6)  | 4 (11.8)  | 1 (50)   | 13 (23.6) | 0        |
|                                                                          | Treatment maintenance or increase n(%) | 43 (46.7)  | 18 (52.9) | 1 (50)   | 23 (41.8) | 1 (100)  |
| Patient treated with insulin before revisional surgery                   | Treatment cessation n(%)               | 18 (19.6)  | 2 (9.5)   | 0        | 14 (22.9) | 2 (25)   |
|                                                                          | Treatment reduction n(%)               | 24 (26.1)  | 6 (28.6)  | 1 (50)   | 15 (24.6) | 2 (25)   |
|                                                                          | Treatment maintenance or increase n(%) | 50 (54.3)  | 13 (61.9) | 1 (50)   | 32 (52.5) | 4 (50)   |

### ➔ Figure 1: Antidiabetic treatments evolution before and after the revisional bariatric surgery depending on surgery type for patient treated before the revisional surgery.



### ➔ After revisional bariatric surgery

Treatment cessation appeared for 42% of diabetic patients (68% of monotherapy, 34% of bi/tritherapy and 20% of insulin) :

This cessation was quite similar for mono and bi/tritherapy in case of GBP or SG procedure ( 68% vs. 70% and 35% vs. 35% respectively).

Higher for insulin in case of GBP (23% vs. 10%).

Treatment maintenance concerned 43% of diabetic patients with revisional surgery, with a lower proportion in case of GBP procedure (41% vs. 47%).

## CONCLUSION

**These first results confirm the revisional surgery interest for antidiabetes treatments reduction, in line with a previous reported results of a national cohort concerning patients with a first bariatric surgery.**

**It is interesting, regarding the antidiabetes treatments cessation, with a potential difference depending on type of surgical procedure and patient profile.**

**Multivariate analyses in function of surgical sequences is in progress.**