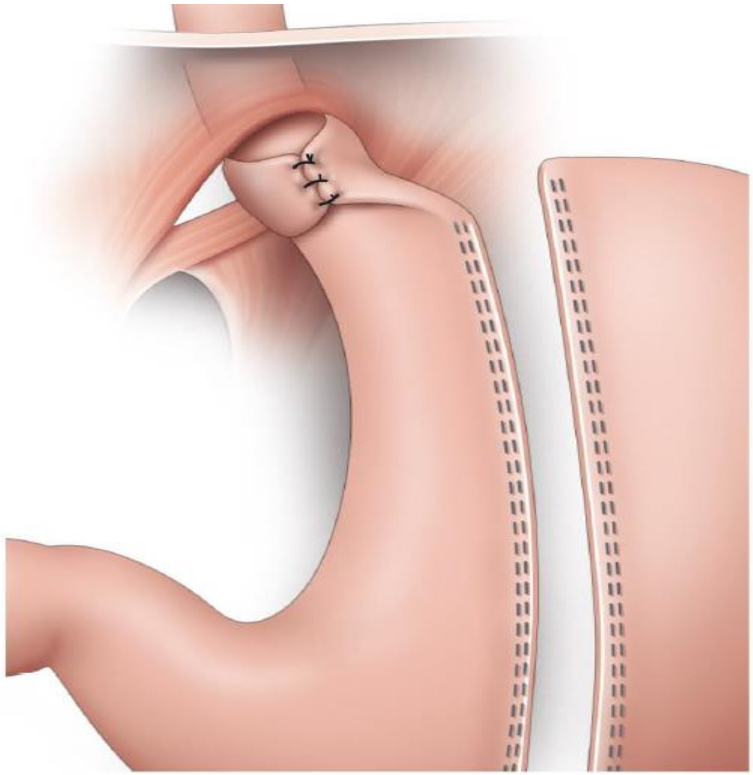
NISSEN SLEEVE GASTRECTOMY



Andy Currie, PhD FRCS(Gen Surg)

NBSR Committee (Reports Lead)

Consultant Surgeon, Epsom & St Helier University Hospitals NHS Trust, UK

Pr D.Nocca, MD PhD

Chair, Bariatric & Metabolic Surgery Unit

Montpellier University Hospital, FRANCE

Disclosures

No commercial disclosures

Personal views – not those of the NBSR

Professor Nocca

RESEARCH

PROWELL

BODINOV

EZISURG

CONSULTANT/SPEAKER

ETHICON

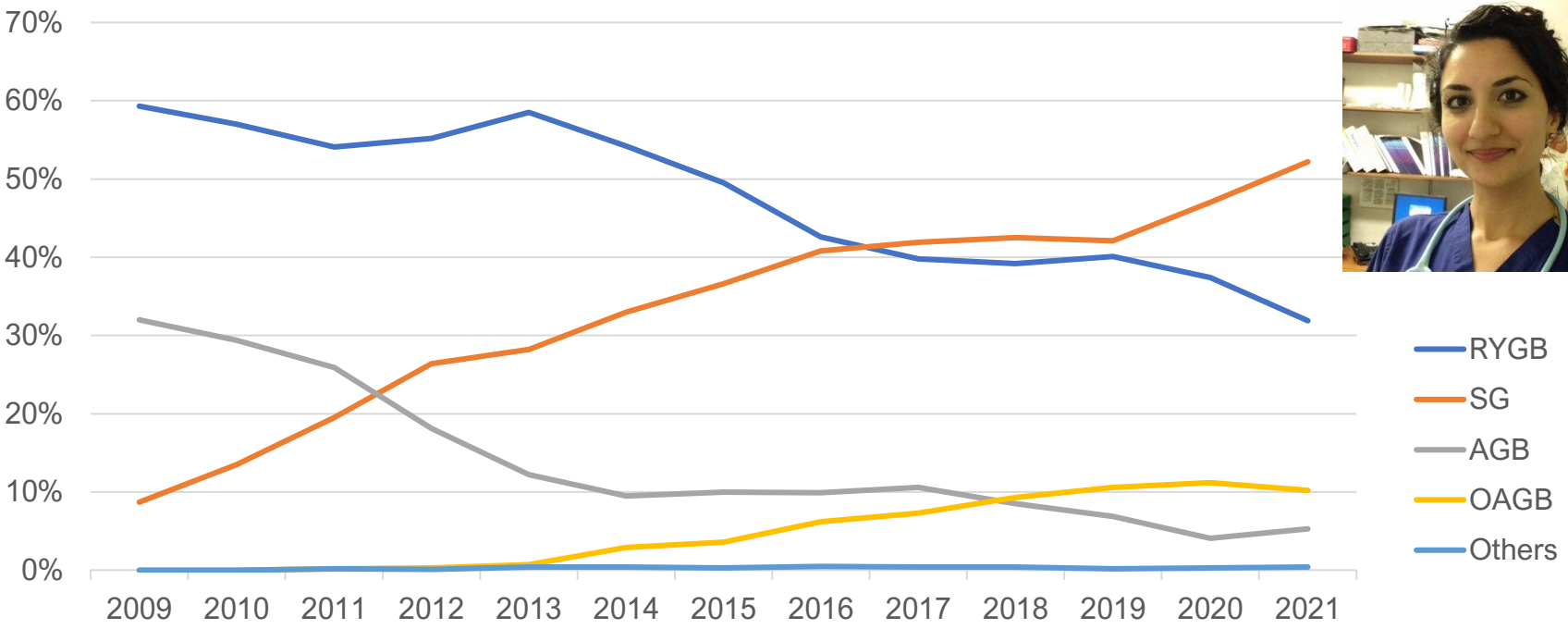
MID

GORE

CARDINAL HEALTH CARE

APPLIED

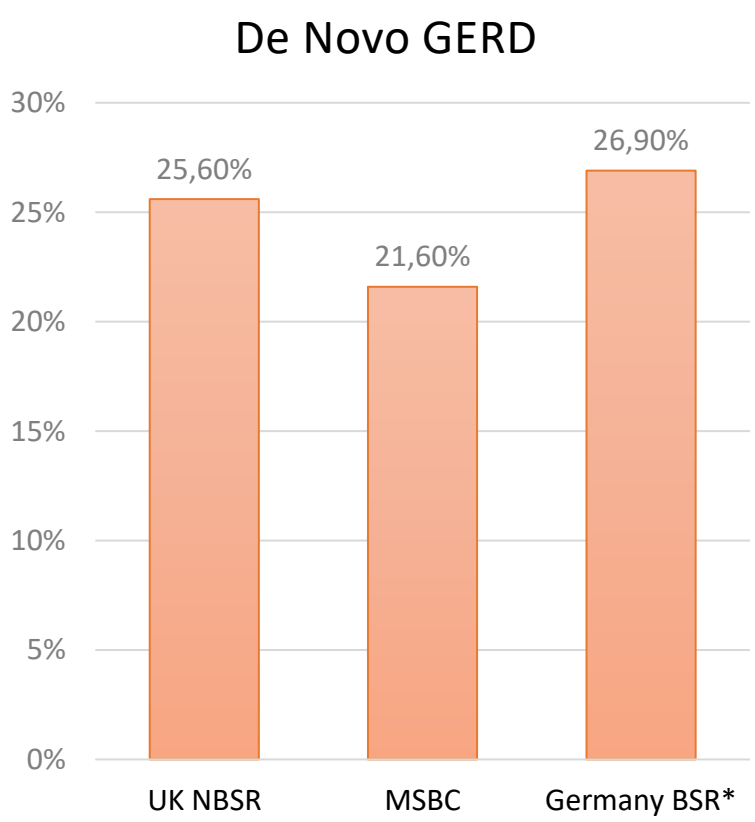
Sleeve gastrectomy in the UK

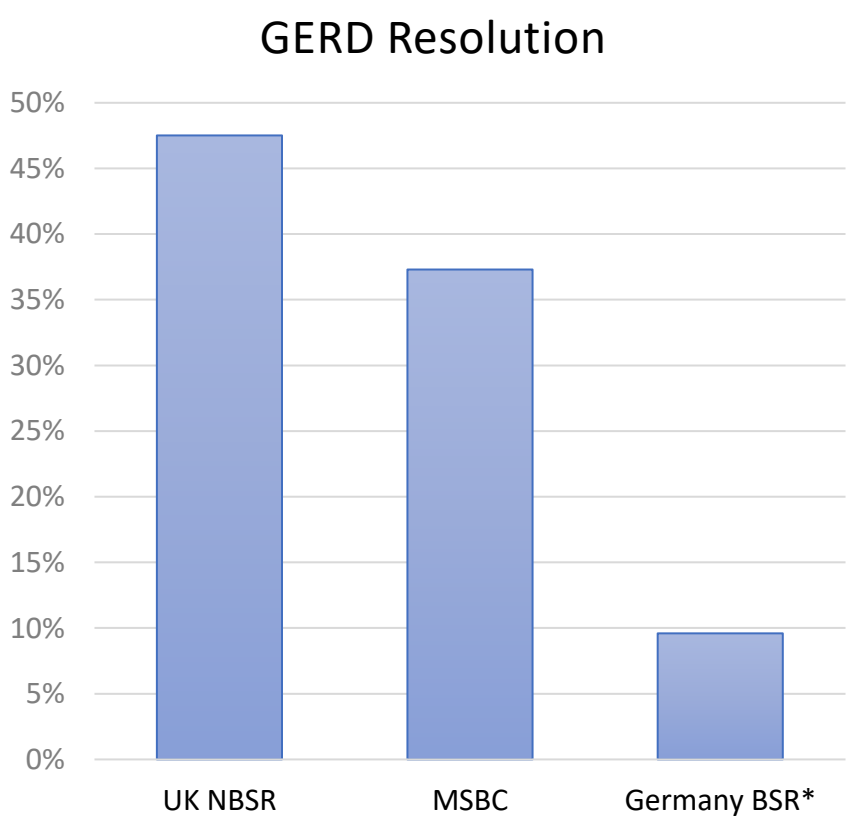


- Severe morbidity (CD3+): **1.1%** (23,827 pts) (but can be difficult to treat)
- De novo GORD: Literature 23-68% : NBSR **25.6%** (8800 pts) – new PPI use

Zakeri & Currie (unpublished)

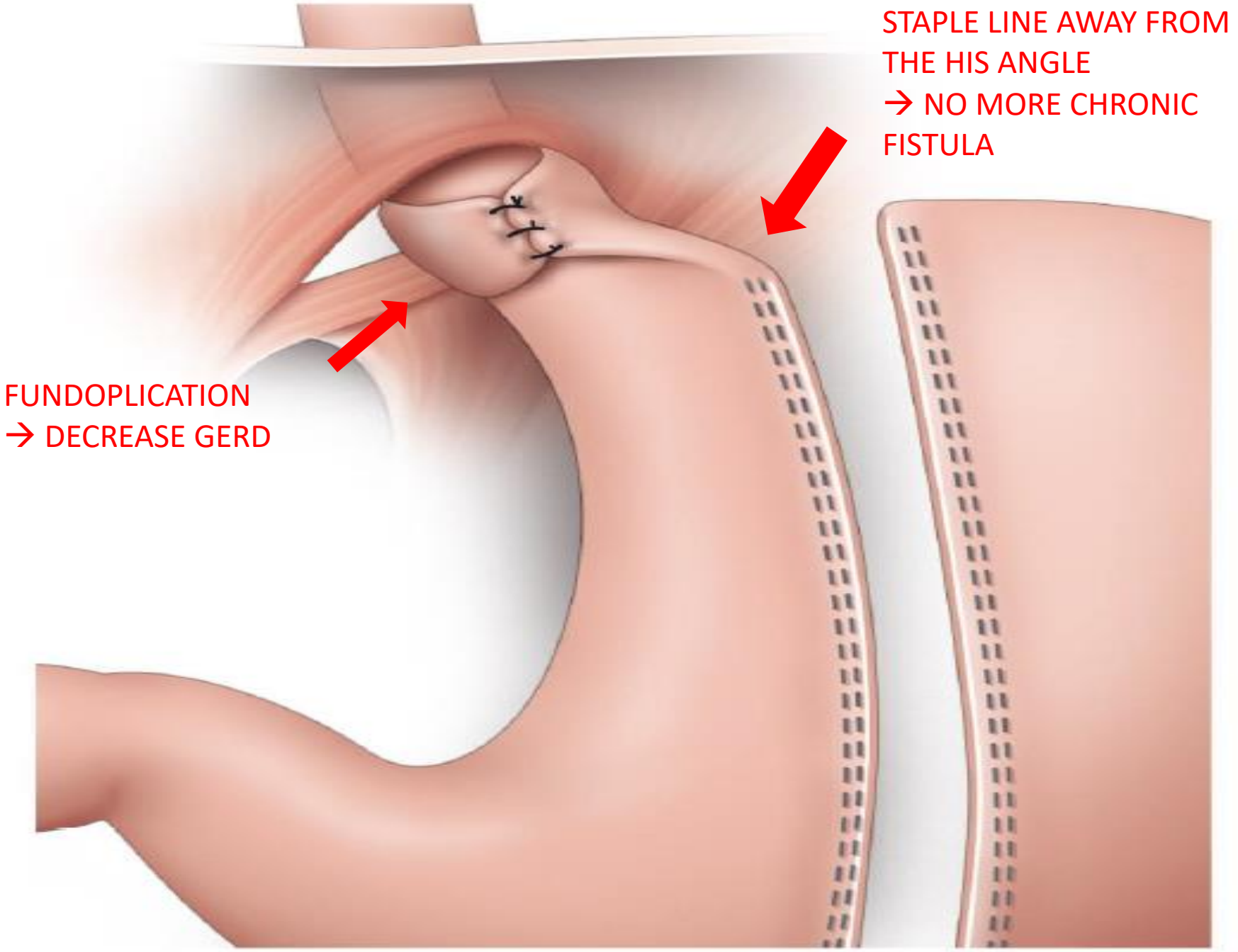
Sleeve gastrectomy and GERD





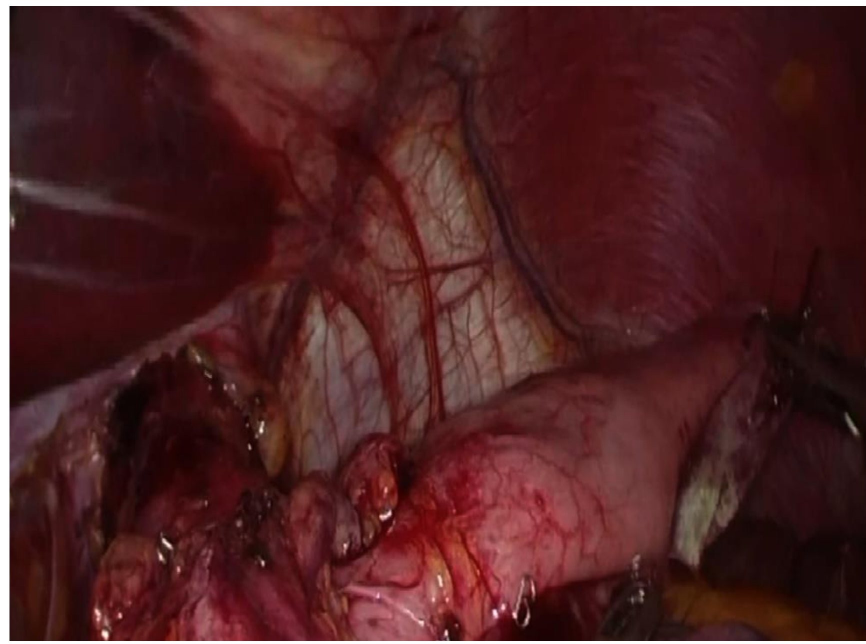
Epsom and St Helier University Hospitals NHS Trust

* 5 yr data


STAPLE LINE AWAY FROM THE HIS ANGLE
→ NO MORE CHRONIC FISTULA
FUNDOPLICATION
→ DECREASE GERD

Cadaveric proof-of-concept

CADAVER TESTING



Open wrap during Nissen Sleeve

NHS
Epsom and St Helier University Hospitals NHS Trust

Følsomhet Intern (gul)

MONTPELLIER
CHU
CENTRE HOSPITALIER UNIVERSITAIRE

INDICATIONS
Bareval cohort (clinical trials)

- 2013-2018:
  - Hiatal hernia, Severe GERD, Barrett's .
- 2019-2020:
  - Proposition to all the patients
- RELATIVE CONTRA-INDICATIONS
  - BMI>50kg/m^2.
  - Previous bariatric procedures.
  - Gastritis.

Technical evolution

- Full esophageal mobilisation (5 cm intra-abdominal)
- Standardization of fundoplication creation
- Wrap (3cm) fixed on the Esophagus (not GE Junction)
- No fixation to the right crus
- Orogastric bougie control manouvres

NSG Outcomes CHUM

Obesity Surgery (2022) 32:2148–2154
https://doi.org/10.1007/s11695-022-06066-0

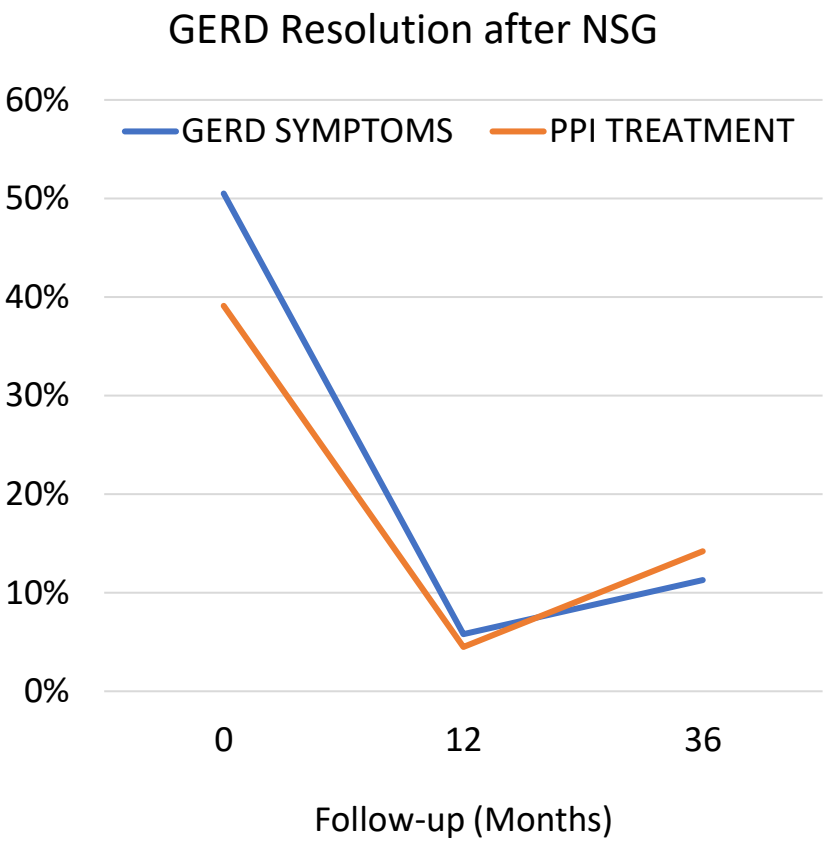
ORIGINAL CONTRIBUTIONS

Peri-operative Morbidity of Nissen Sleeve Gastrectomy: Prospective Evaluation of a Cohort of 365 Patients, Beyond the Learning Curve

David Nocca[1,2] · Florence Galtier[1,3] · Sulaiman Taleb[1] · Marie-Christine Picot[2,3,4] · Audrey Jaussent[4] · Marta Silvestri[5] · Patrick Lefebvre[1] · Audrey de Jong[1] · Thomas Gautier[6] · Marcelo Loureiro[1,7] · Marius Nedelcu[8,9]

- - 349 patients (75% female)
- - Age: 41.2 years
- BMI: 41.6 kg/m²
- T2DM: 17.3%
- GERD symptoms: 50.5%
- PPI treatment: 39.1%
- Esophagitis: 25.5%
- Barrett's oesophagus: 4.9%
- Hiatal hernia: 17.8%

NSG Outcomes CHUM



Peri-operative morbidity

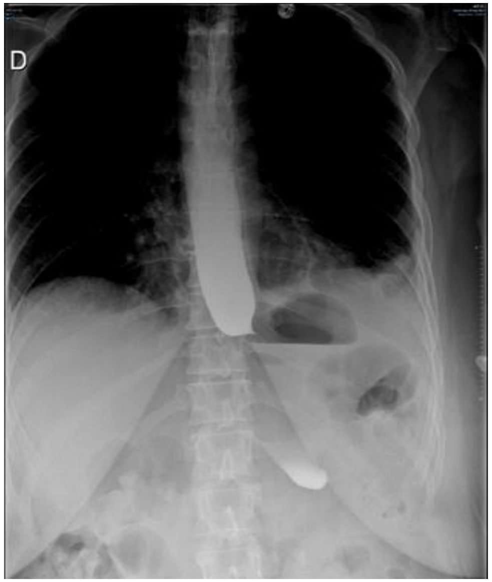
- Mortality: 0%
- Conversion:0%
- MEAN OPERATIVE TIME : 83mn (45-115)
- MEAN HOSPITAL STAY: 3,4 days
- Intraoperative bleeding (spleen): 2
  - Hemostatic sponges (tachosil)
- Technical difficulties or gist:
  - 21 cases→sleeve gastrectomy

REOPERATION RATE: 3,7%

NO LEAKs AT HIS ANGLE

Peri-operative morbidity

- **6 acute wrap perforations**
  - 5 wrap resections and 1 suture
- **1 wrap dilatation**
  - 1 wrap resection
- **5 intraabdominal bleeding**
  - 4 laparoscopic management
    - 2 wrap perforations → wrap resection
- **1 incarcerated umbilical hernia**
- **1 aphagia**
  - Wrap resection



Peri-operative morbidity

Learning curve with NSG

	1:<=2016	2:2017	3:2018-2020
Operations (n)	n=99	n=65	n=349
Morbidity	7 (7.07%)	8 (12.31%)	**13** **(3,7%)**

Late morbidity

- Perforation after steroid treatment without PPI cover
  → 2 perforations of the wrap
  (day 275 and 295)

Late morbidity (1 year)

- Dysphagia
  - 3 cases
    - 1 wrap resection
    - 1 Nissen Sleeve (wrap revision)
    - 1 Toupet Sleeve

Video

- Will play our published video from Obesity Surgery here

External validity

Obesity Surgery
https://doi.org/10.1007/s11695-020-04469-5

ORIGINAL CONTRIBUTIONS

The Nissen-Sleeve (N-Sleeve): Results of a Cohort Study

Imed Ben Amor[1,2,3] · Vincent Casanova[1] · Geoffroy Vanbiervliet[4] · Jean Marc Bereder[5] · Richard Habitan[6] · Radwan Kassir[7] · Jean Gugenheim[1]

Characteristics	Preoperative ($n = 70$)	Postoperative ($n = 70$)
GERD esophageal symptoms *n* (%)	53 (76%)	1 (1%)
Asymptomatic GERD *n* (%)	15 (21%)	1 (1%)
Extraesophageal GERD *n* (%)	5 (7%)	4 (6%)
Esophagitis A/B/C/D *n* (%)	26 (37%)/31 (44%)/12 (17%)/1 (1%)	7 (10%)/11 (16%)/3 (4%)/0
Barrett's esophagus *n* (%)	0	0
+ ph metria *n* (%)	12 (17%)	3 (4%)
PPI use *n* (%)	56 (80%)	5 (7%)

GERD gastroesophageal reflux disease

Table 2 Complications after N-Sleeve

Characteristics	N-Sleeve (n = 70)
Operative time (min) mean ± SD [range]	62 ± 17 [30–120]
Hospital stay (days) mean [range]	2 [2–3]
Bleeding *n* (%)	1 (1%)
Fistula *n* (%)	1 (1%)
Stenosis *n* (%)	2 (3%)
Conversion *n* (%)	1 (1%)
30 days readmissions *n* (%)	2 (3%)
Mortality *n* (%)	0

N-Sleeve Nissen-Sleeve

External validation – Olmi RCT

ELSEVIER

Surgery for Obesity and Related Diseases ■ (2021) 1–9

SURGERY FOR OBESITY AND RELATED DISEASES

Original article

Sleeve gastrectomy with tailored 360° fundoplication according to Rossetti in patients affected by obesity and gastroesophageal reflux: a prospective observational study

Stefano Olmi, M.D.[a,b], Giovanni Cesana, M.D.[a,c,*], Lucia D'Angiolella, Ph.D.[d], Marta Bonaldi, M.D.[a,c], Matteo Uccelli, M.D.[a], Lorenzo Mantovani, D.Sc.[d]

- 58 patients (28% male)
- Mean BMI 41.9 +/- 4.6
- All had typical GERD symptoms
- 12% T2DM

Esophagitis	58 (100)
A	40 (69.0)
B	12 (20.7)
C	6 (10.3)
PPIs	58 (100)

External validation – Olmi RCT

Early and late surgical complications after laparoscopic sleeve gastrectomy + Rossetti fundoplication

Complication	n (%)	Reintervention required
Early complication, n = 4 (6.9%)		
Fundoplication's perforation	2 (3.5)	Yes
Anemia and perigastric hematoma	2 (3.5)	No
Anemia that required transfusion	1 (1.7)	
Mild anemia	1 (1.7)	
Late complication, n = 1 (1.7%)		
Fundoplication's disruption	1 (1.7)	Yes

Data are reported as percentage of the total (58 patients).

Pre- and postoperative endoscopic findings of esophagitis according to the Los Angeles classification system

	Preoperatively, n	Postoperatively, n
Esophagitis A	24	1
Esophagitis B	7	1
Esophagitis C	4	0
Total	35	2

EGDS = esophagogastroduodenoscopy.

Data are according to the Los Angeles classification system [19]. Pre- and postoperative EGDS was compared in 35 of 58 (60.3%) patients with a mean follow-up of 15.5 ± 4.8 months after surgery.

BMI: 41.9 → 28.2

Conclusion

- Currently, Nissen-Sleeve Gastrectomy is safe and effective option to decrease the morbidity of Sleeve Gastrectomy
- Critical to respect the key technical components
- Should continue to be evaluated within clinical trials
- Learning curve is challenging, but can expand the options for patients

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DIRECTOR OF THE COURSE:
Pr D.NOCCA

Head of the Bariatric team of Universitary Montpellier Hospital. Director of the scientific committee of SOFFCOM. Founder President of ICYLS

david.nocca@sfr.fr

Epsom and St Helier University Hospitals NHS Trust

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