METABOLIC SURGERY UPDATE

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FINANCIAL DISCLOSURE
“NONE”
“Metabolic Surgery”

The Past

The Present

The Future
METABOLIC SURGERY

“ A set of gastrointestinal operations offered with the primary intent to treat metabolic disease: obesity, metabolic syndrome, and diabetes.”

Rubino, F., MISS, 2015.
THE PAST

1955 – Freedem – Amelioration of DM after subtotal gastrectomy,
1978 – Jejuno-ileal bypass for diabetes- Ahmad et al, Diabetes Care
1993 – Vertical Banded Gastroplasty, Neve H et al; Obesity Surgery
1998 – Biliopancreatic Diversion, Scopinaro.
THE PAST

Jejunoileal Bypass

- 1950's – 1970's
- Good weight loss
- Mineral and electrolyte disorders
- Liver failure and cirrhosis
- Diarrhea
- Most eventually reversed or revised

N. T. Nguyen et al. (eds), The ASMBS Textbook of Bariatric Surgery: Vol 1.
THE PAST

Vertical Banded Gastroplasty

-Common in 1980’s-1990’s
- Classified as “Severely Dangerous” by AMA
- Good short term weight loss, but not durable
- Frequent revisions due to complications – erosion, stricture, fistula

THE PAST

Biliopancreatic Diversion
- Precursor to Duodenal Switch procedure
- Excellent weight loss and comorbidity improvement
- High incidence of marginal ulcers and severe dumping syndrome

- N. T. Nguyen et al (eds), The ASMBS Textbook of Bariatric Surgery, Vol 1
THE PRESENT

Adjustable Gastric Band
-Laparoscopic
-Weight loss – 30-40% EBW (20% BW)
-Least complications
-3% of procedures
-Revisions due to failure, slip, erosion, reflux
THE PRESENT

- Roux-en-y Gastric Bypass
  - Gold Standard
  - Most widely performed procedure
  - 60-70% EBW loss, 60% sustained EBW loss at 10 yrs
  - Significant improvement in metabolic comorbidities
    - Diabetes 70-80%, OA-80%, dyslipidemia-80%, hypertension-86%, Sleep apnea-80%, GERD-90%
  - Total complication rate -45%

THE PRESENT

Sleeve Gastrectomy

- Surpassing RNY GBP as most common procedure
- EWL of 60-70%, 50-60% at 5 years
- Initially developed a bridge procedure
- Comorbidity improvement – DM resolution-60%, HTN-50%
- Less Nutritional deficiencies

THE PRESENT

Biliopancreatic Diversion with Duodenal Switch
- Most effective metabolic operation
- Typically for superobese (BMI>50), Revisions
- EWL>70%
- Diabetes remission – 90%+
- Dumping syndrome
- Nutritional deficiencies common

THE FUTURE

Mini-Gastric Bypass
- “Not Approved” in U.S.
- Becoming popular internationally
- Single anastomosis
- EWL – 64-80%
- Outcomes similar to RNY-GBP
- Bile Reflux

THE FUTURE

Single Loop Duodenal Switch

- “Not Approved” in U.S.
- EWL > 90% at 5 years
- DM remission > 60%, 87% no insulin (5 yrs)
- Investigational studies pending
- Outcomes similar to BPD-DS

- Torres A; MISS, 2015
THE FUTURE

Reshape Duo Intragastric Balloon

- Reduce Trial
- EWL – 25% at 24 weeks
- Weight loss maintained by 65% of patients at 48 wks
- Gastric ulcers in 10%
- Significant benefits in comorbid labs and QOL after 48 weeks
- Lower BMI – 30-40, bridge procedure, adolescents

- Ponce J: MISS 2015.
THE FUTURE

Gastric Plication

- Investigational
- EWL -50-60% at 3 years
- Reversible
- Comorbidity improvement in 75% of patients
- ? Durability
- Combined with Adjustable Gastric Band
- Endoscopic techniques

THE FUTURE

EndobARRIER System
- Endoscopic placement
- Bypasses first portion of small intestine
- Currently investigational in U.S.
- Studies show enhanced weight loss and diabetes control vs. diet

THE FUTURE ?