Surgical Treatment of Diabetes... Are You Kidding Me?

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Overview

- Scope of the Problem
- Futility of the Surgical Treatment of Diabetes
- Conclusion
Diabetes Mellitus

- 24 million US citizens have diabetes, expected to double by 2050
- The incidence of DM has doubled to 9.1/1000 people in the past decade
- DM-related care is estimated to cost $174 billion in 2007
- Increased risk of debilitating macrovascular and microvascular complications, such as CVA, CAD, retinopathy, neuropathy, nephropathy
- Leading cause of ESRD and blindness in the US

Surgical Treatment of Diabetes

Comparative effectiveness of bariatric surgery and nonsurgical therapy in adults with type 2 diabetes mellitus and body mass index < 35 kg/m2

- Retrospective
- Only 17 in each arm comparing RNYGB with similar medically managed subjects
- RYGB: BMI decreased from 34.6 to 25.8
- RYGB: A1c decreased from 8.2 to 6.1
- No significant change in BMI or A1c in medical group
- “RYGB can be performed… with better weight loss [and] glycemic control”


Complications: 4/17 pts (23%)!!
Readmission: 18%

Medically managed DM already at ADA goal (A1c 7%)
Laparoscopic Roux-en-Y Gastric Bypass for the Treatment of Type II Diabetes Mellitus in Chinese Patients with Body Mass Index of 25-35. 100% improvement of DM with 64% remission.

Gastric Bypass in the Treatment of Type 2 Diabetes in Patients with a BMI of 30 to 35 kg/m²

100% control of DM with 48% complete remission.

“RYGB is the ideal surgery for diabetic individuals without clinical control”

BUT... We failed to mention 27% complication rate.

Weight and Type 2 Diabetes after Bariatric Surgery: Systematic Review and Meta-analysis.

RNYGB DM resolution was 80.3%!

Why is there a difference when data reported less or greater than 2 years? You mean the Diabetes can come back?
Recurrence of Diabetes after Gastric Bypass

Safety and Efficacy of Roux-en-Y Gastric Bypass to Treat Type 2 Diabetes Mellitus in Non-severely Obese Patients

Retrospective

34 subjects DM2 and BMI 30-35

Remission of DM at 12 months 25/30 (83%)

At 2 years, remission of DM 13/20 (65%)

Complications: 10/34 (33%)!!

And yet “RYGB is safe and an effective procedure to induce remission of T2DM“... REALLY?

Long-Term Follow-Up of the Metabolic Profiles in Obese Patients with Type 2 Diabetes Mellitus After Roux-en-Y Gastric Bypass.

92% improvement of DM with 71% remission!

BUT at 24-48 mo follow-up 11/149 (7%) had worsening of DM
Recurrence of Diabetes after Gastric Bypass

Re-emergence of diabetes after gastric bypass in patients with mid- to long-term follow-up.

100% improvement of DM with 64% remission

BUT at 3 year follow-up, 24% recurred or had worsening DM.

Analysis of factors associated with durable remission of diabetes after Roux-en-Y Gastric bypass.

5 to 16 year follow-up. Initially 157/177 pts had complete remission of DM (89%)

68/157 pts with initial remission had DM2 recurrence (43%)
Conclusion: Failure of Gastric Bypass for the Treatment of Diabetes

- No prospective randomized studies; all studies in non-obese patients are retrospective or observation
- In all available studies comparing medical and surgical therapy, the medical arm was at ADA goals for A1C (< 7%)
- Durable Remission of DM2 was seen in only 56-70% of patients with longer-term follow-up
- Complication rate was 13-33%
- A large review of all gastric bypasses: mortality 0.3-0.5% and morbidity 14.9%
- Why does medical management fail? A big factor is noncompliance. For those undergoing gastric bypass, in general, require counseling and demonstration of weight loss and adherence to diet before undergoing procedure. So choosing a select population of compliance. As a result, outcomes likely worse after gastric bypass in all-comers.
References