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Study shows potential for resolving type 2 diabetes with bariatric surgery

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As the incidence of obesity-induced type 2 diabetes mellitus continues to increase worldwide, medical research indicates that surgery to reduce obesity can completely eliminate all manifestations of diabetes. In a study published in the March 2009 issue of *The American Journal of Medicine*, investigators analyzed 621 studies from 1990 to April of 2006, which showed that 78.1% of diabetic patients had complete resolution and diabetes was improved or resolved in 86.6% of patients as the result of bariatric surgery. The primary risk factor for type 2 diabetes is obesity, and 90% of all patients with type 2 diabetes are overweight or obese.

The dataset included 135,246 patients where 3188 patients reported resolution of the clinical and laboratory manifestations of type 2 diabetes. Nineteen studies with 11,175 patients reported both weight loss and diabetes resolution outcomes separately for the 4070 diabetic patients in those studies. Clinical findings were substantiated by the laboratory parameters of serum insulin, HbA1c, and glucose.

Researchers observed a progressive relationship of diabetes resolution and weight loss as a function of the operation performed: laparoscopic adjustable gastric banding, gastroplasty, gastric bypass, and biliopancreatic diversion/duodenal switch (BPD/DS). Gastric banding yielded 56.7% resolution, gastroplasty 79.7%, gastric bypass 80.3% and BPD/DS 95.1%. After more than 2 year post-operative, the corresponding resolutions were 58.3%, 77.5%, 70.9%, and 95.9%. In addition, the percent excess weight loss was 46.2%, 55.5%, 59.7% and

63.6%, for the type of surgery performed, respectively.

Writing in the article, Henry Buchwald, MD, PhD, Department of Surgery, University of Minnesota, states, "This systematic review and meta-analysis demonstrate that bariatric surgery has a powerful treatment effect in morbidly obese persons with type 2 diabetes; 82% of patients had resolution of the clinical and laboratory manifestations of diabetes in the first 2 years after surgery, and 62% remained free of diabetes more than 2 years after surgery (80% and 75% for the total group). Randomized clinical trials comparing surgery and medical therapies for type 2 diabetes are urgently needed. Considering the potential benefits for millions of people, such trials should assess the risk/benefit ratio of surgery in less obese (BMI 30-35 kg/m^2) populations, as well as in the morbidly obese (BMI>35 kg/m2) population."

More information: "Weight and Type 2 Diabetes after Bariatric Surgery: Systematic Review and Meta-analysis" by Henry Buchwald, MD, PhD, Rhonda Estok, RN, BSN, Kyle Fahrbach, PhD, Deirdre Banel, BA, Michael D. Jensen, MD, Walter J. Pories, MD, John P. Bantle, MD, and Isabella Sledge, MD, MPH. It appears in *The American Journal of Medicine*, Volume 122, Issue 3 (March 2009) published by Elsevier.

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