

Association of Bariatric Surgery in Patients with Obesity and Diabetes

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The association between Type 2 diabetes and obesity shows an increased cancer risk and cancer mortality. The combination of both overweight and diabetes contributed to 25- 40 % of cancer like liver cancer, endometrial cancer, and esophageal cancer. The most effective method for weight loss in people with obesity was bariatric surgery. The previous report from various observational and retrospective studies suggests that obese people with diabetes had achieved diabetes remission in a short duration and also reduced cancer risk after bariatric surgery. The link between diabetes and cancer appears to be bidirectional. For example, it has been reported that cancer survivors have a higher risk of developing type 2 diabetes.

A prospective controlled intervention study with up to 31 years of follow-up enrolled 4,047 individuals with obesity between 1987 and 2001, in which 2,010 individuals underwent surgery, and a matched control group of 2,037 participants with obesity was studied. They found that bariatric surgery was associated with a decreased cancer risk in patients with obesity and diabetes. In the overall analysis, a 37% reduced risk of incident cancer after bariatric surgery in patients with obesity and diabetes was observed during follow-up.

In the randomized Look AHEAD (Action for Health in Diabetes) trial, intensive

lifestyle intervention showed a reduced risk of obesity-related cancer in overweight/obesity and type 2 diabetes individuals. Bariatric surgery was associated with a greater cancer risk reduction in women with hyperinsulinemia. The possible explanations for the association with surgery in women may be due to higher cancer rates in women with diabetes. Furthermore, both estrogen and insulin are cancer risk factors that are increased in obesity, each with the capacity to regulate the secretion and signaling pathway of the other. Bariatric surgery has been shown to reduce circulating levels of estrogen and other cancer-associated biomarkers.

To conclude the increasing rates of obesity and diabetes worldwide, a greater emphasis on cancer prevention strategies is needed. Hereby suggests that bariatric surgery may significantly reduce cancer risk among patients with obesity and diabetes. Moreover, durable diabetes remission seems imperative for cancer prevention in patients with obesity and diabetes.

Reference

1. Sjöholm K, Carlsson LMS, Svensson PA, et al. Association of Bariatric Surgery With Cancer Incidence in Patients With Obesity and Diabetes: Long-term Results From the Swedish Obese Subjects Study. *Diabetes Care*. 2022;45(2):444-450. doi:10.2337/dc21-1335