Predictive models of diabetes remission and their potential to impact patient selection for bariatric surgery.

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Bariatric surgery has been shown to be superior to medical therapy in the management of patients with type 2 diabetes mellitus (DM2). Studies demonstrate DM2 remission rates ranging from 75-83% with various surgical bariatric interventions. Both the American Diabetes Association and the International Diabetes Federation endorse consideration of bariatric surgery for the management of diabetes in adults with a body mass index of ≥ 35 kgm^{-2}.

Studies have identified pre-operative baseline characteristics such as a shorter duration of diabetes (less than 4 years), the absence of insulin therapy, a lower A1C (≤ 7.1%) and higher C-peptide levels as strongly predictive of diabetes remission one year after bariatric surgery, among patients with a BMI ≥ 35 kgm^2. Furthermore, recently proposed models can predict diabetes remissions at one year with sensitivities and specificities ranging from 82-93% and 87-94% respectively.

Although the risks of bariatric surgery are comparatively low, the operative mortality is still estimated at 2-3 deaths per 1000. In the era of new weight modifying anti-diabetes medications on the horizon, clinical tools that provide accurate estimates of DM2 remission allow physicians and patients to better assess the risk-benefit ratio of bariatric surgery, especially when the surgery is being considered primarily for the management of diabetes.

We propose to review recently described predictive models of diabetes remission, evaluate their use and limitations and discuss their relevance to the selection of candidates for bariatric surgery.

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