

Type 2 diabetes: Turning management into remission

Like type 1 diabetes, type 2 diabetes has long been considered a progressive, incurable condition in which the optimal goal after diagnosis is tight glycemic control and risk factor management to prevent vascular disease and neuropathy.¹ The assumption that type 2 diabetes is irreversible is supported by the strong association with genetics, the high prevalence of microvascular complications, and the loss of beta cell mass and function frequently present at diagnosis.

The typical impact on morbidity and mortality for those with type 2 diabetes is rather grim and in excess of many cancers. The average 10-year survival rates for breast cancer and non-Hodgkin lymphoma are 84% and 55%, respectively; the average 10-year lifespan for type 2 diabetes is 50%.² While the goal for most patients with cancer is remission, the patient with type 2 diabetes is taught that they need to live with this incurable disease. This need not be the case.

Increasing evidence points to the ability of patients to not only halt the onset of type 2 diabetes, but also to enter remission after a type 2 diabetes diagnosis. Bariatric surgery (RYGB, BPD) has been shown to result in durable remission in the majority of patients with type 2 diabetes,³ and research has demonstrated that counseling patients to engage in modest caloric reduction using portion control and limited use of meal replacements resulted in roughly 10% of patients experiencing remission after 2 years.⁴

The Diabetes Remission Clinical Trial (DiRECT) in particular provides compelling evidence for the efficacy of structured, diet-induced

weight loss on type 2 diabetes remission outcomes.⁵ The randomized controlled trial's intervention consisted of withdrawal of antidiabetic/antihypertensive drugs, total diet replacement for 12 to 20 weeks, stepped food reintroduction (2 to 8 weeks), and then structured support for weight-loss maintenance. At 24 months, 36%

Increasing evidence points to the ability of patients to not only halt the onset of type 2 diabetes, but also to enter remission after a type 2 diabetes diagnosis.

of intervention group participants had remission of diabetes, lower weight (average 8 kg), lower blood pressure, a 50% reduction in cardiovascular disease risk, lower health care costs, and better quality of life. Post-hoc analysis of patients experiencing remission found a return to normal pancreas volume, morphology, and beta cell capacity.⁶ Importantly, the trial was conducted entirely in primary care practices, assisted by nurses and dietitians.

The evidence shows us that we can do better than simply managing type 2 diabetes. With sustained, diet-induced weight loss programs in patients who are willing to engage in substantial lifestyle modifications, remission of type 2 diabetes is possible. While such an outcome requires significant commitment from both patients and health care providers, the benefits of increasing type 2 diabetes remission rates to patients, the health care system, and society as a whole are impossible to ignore. ■

—Michael Lyon, MD, ABOM

References

1. Nathan DM. Long-term complications of diabetes mellitus. *N Engl J Med* 1993;328:1676-1685.
2. Rawshani A, Rawshani A, Franzen S, et al. Risk factors, mortality, and cardiovascular outcomes in patients with type 2 diabetes. *N Engl J Med* 2018;379:633-644.
3. Mingrone G, Panunzi S, Gaetano A, et al. Bariatric-metabolic surgery versus conventional medical treatment in obese patients with type 2 diabetes: 5 year follow-up of an open-label, single-centre, randomised controlled trial. *Lancet* 2015;386:964-973.
4. Gregg E, Chen H, Wagenknecht L, et al. Association of an intensive lifestyle intervention with remission of type 2 diabetes. *JAMA* 2012;308:2489-2496.
5. Jean M, Leslie W, Barnes C, et al. Durability of a primary care-led weight-management intervention for remission of type 2 diabetes: 2-year results of the DiRECT open-label, cluster-randomised trial. *Lancet Diabetes Endocrinol* 2019;7:344-355.
6. Al-Mrabeh A, Hollingsworth K, Shaw J, et al. 2-year remission of type 2 diabetes and pancreas morphology: A post-hoc analysis of the DiRECT open-label, cluster-randomised trial. *Lancet Diabetes Endocrinol* 2020;8:939-948.

This article is the opinion of the Nutrition Committee, a subcommittee of Doctors of BC's Council on Health Promotion, and is not necessarily the opinion of Doctors of BC. This article has not been peer reviewed by the BCMJ Editorial Board.