Rebuttal: Is tight glycemic control in type 2 diabetes really worthwhile?

NO

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There is limited evidence for modest, clinically debatable, "microvascular" benefits of hemoglobin A_{1c} (HbA_{1c}) target values higher than "tight" glycemic control. The ACCORD (Action to Control Cardiovascular Risk in Diabetes) trial suggests that a target level of less than 7% is dangerous.[1] Patients must understand these things to make rational, informed choices about their own medical care.

Dr Clement and colleagues warn of negative consequences if ACCORD "headlines" cause physicians to "relax in treating diabetes to target." They characterize the absolute mortality increase of 1% associated with intensive control in ACCORD[1] as "slight." However, this 25% relative increase (from 4% to 5%) is of the same relative magnitude but far more important clinically than the "21% or 25% reduction in microvascular complications" they tout from ADVANCE (Action in Diabetes and Vascular Disease: Preterax and Diamicron MR Controlled Evaluation)[2] or UKPDS (UK Prospective Diabetes Study).[3]

They assert that "the trials cited" show that targeting HbA_{1c} values to below 7% reduces microvascular complications. But, as acknowledged, these trials include DCCT (Diabetes Control and Complications Trial)[4] and its follow-up, EDIC (Epidemiology of Diabetes Intervention and Complications),[5] which are studies of type 1 diabetes—a profoundly different disease. For type 2 diabetes, almost all of the reduction in adverse microvascular outcomes is accounted for by measures that might be unimportant to most of our patients: reductions in proteinuria, but not renal failure, or in retinal photocoagulation, but not blindness.

Clement et al argue that macrovascular complications "might" be reduced, should tight control be initiated early. This is a weak basis for imposing the corollary burden of financial expense, weight gain, and hypoglycemic episodes on patients. And there is currently no evidence for its prevention of cerebral or peripheral vascular disease.

Recently, 2 additional large trials have suggested that aiming for "tight glycemic control" does more harm than good in established type 2 diabetes mellitus[6] and in patients in the intensive care unit.[7]

Will "tight control" truly benefit some patients with type 2 diabetes? If so, it will be necessary to treat many individuals to prevent 1 event that matters. Withholding this information or promoting a non–evidence-based "standard of care" erodes patient autonomy, and is therefore unethical.

A recently published article in *Annals of Internal Medicine* summarizes how current knowledge could be applied to help individual patients with type 2 diabetes mellitus:

> tight glycemic control burdens patients with complex treatment programs, hypoglycemia, weight gain, and costs and offers uncertain benefits in return. We believe clinicians should prioritize supporting well-being and healthy lifestyles, preventive care, and cardiovascular risk reduction in these patients. Glycemic control efforts should individualize HbA_{1c} targets so that those targets and the actions necessary to achieve them reflect patients' personal and clinical context and their informed values and preferences.[8]

Single-minded pursuit of "tight control" diverts resources from more rewarding investments for health promotion. Physical education; building walking, cycling, and skiing trails, community swimming pools, and gyms; and lifestyle counseling could reduce the prevalence of type 2 diabetes. For older patients facing progressive illness, home support is usually more valuable than a completed glucometer record.

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Competing interests
None declared

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continued on next page

These rebuttals are responses from the authors of the debates in the June issue (*Can Fam Physician* 2009;55:580-3). See **www.cfp.ca**.

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