

# Letters

## Concerns regarding the case of a man with newly diagnosed NIDDM

Dr Ashraf Saleh (*AJGP*, January–February 2019)<sup>1</sup> describes a very interesting case of extreme hypercholesterolaemia and hypertriglyceridaemia in a man with newly diagnosed non-insulin dependent diabetes mellitus (NIDDM).

What we find paradoxical about this article is that apart from the minor mention of a ‘sedentary lifestyle’, there is otherwise no mention of lifestyle factors – particularly the critical role of diet – in this person’s management.

Where is general practice heading when there are articles in the College’s very own journal, written by a general practitioner (GP) who has a Masters in Nutritional Science, not even mentioning the critical role of diet/carbohydrate in the management of NIDDM?

I (RR) have had IDDM/type 1 diabetes for over 60 years; for the past 25 years, I have been managing my diabetes by following a low carbohydrate, higher fat, moderate protein diet.<sup>2</sup>

Over these 25 years, my glucose control has improved immensely, with episodes of hypoglycaemia mild and much less frequent. I have much more stable glucose outcomes; my insulin requirements have decreased by over 50% to 25 units daily and glycated hemoglobin (HbA1c) decreased significantly to the mid-sixties with more potential to improve, if I maintain a stricter low-carbohydrate approach (approximately 30 g carbohydrate daily).<sup>3</sup>

I (RS), following encouragement and explanation from RR and extensively researching the literature,<sup>4</sup> have over the past six months embraced the low-carbohydrate ketogenic eating approach, both personally and professionally. I have been amazed at the powerfully positive effect it has on people’s glycaemic control.

I recently saw a person with NIDDM whose routine tests showed a fasting blood glucose of 21.9 mmol/L, HbA1c of 12.9%, and random blood glucose (RBG) of 25 mmol/L recorded in the surgery a couple of days later. My previous dietary advice to him had been a diet high in complex carbohydrates, which has traditionally been recommend for people with diabetes. Unfortunately for him and for the many other patients with NIDDM I have managed over the years, this approach has proven to be spectacularly unsuccessful, rarely achieving an HbA1c of <7%. I explained to him that he would either need to go on a low-carbohydrate, and possibly ketogenic, diet, or insulin treatment. I very much encouraged the low-carbohydrate approach, which he chose.

Three days later his RBG was 19 mmol/L, four days later it was 16 mmol/L, a week later it was 10 mmol/L and three months later his HbA1c was 6.7% and RBG was 6.5 mmol/L! No insulin, no new tablets!

The Royal Australian College of General Practitioners’ *General practice guidelines to management of diabetes (2016–2018)* states ‘To influence the glycaemic response after eating, the amount and quality of the carbohydrate eaten may be the most important factor. The amount of carbohydrate eaten within a meal should therefore be considered when meal planning’.<sup>5</sup> Yet despite this recognition that carbohydrate is the most important factor influencing glycaemic response, the dietary recommendation remains for people with diabetes to have a diet high in complex carbohydrate. This just doesn’t make sense.

In our opinion, a low-carbohydrate, potentially ketogenic, diet should be the mainstay management for people with diabetes, either NIDDM or IDDM. Additionally, it has enormous potential to prevent the development of NIDDM in the first place.

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## Reply

In response to the valid questions and comments posed by the authors in the aforementioned letter, it is well recognised that diet and lifestyle have an inextricable link to the pathogenesis and effective management of type 2 diabetes. The case study aimed to chronologically present the journey from record high dyslipidaemia in a recently discovered patient with dysglycaemia, to reasonably well managed metabolic parameters and an absence of cardiovascular events. Observing the word limit meant issues such as diet and lifestyle could only receive a cursory reference in the context of a detailed medical case report. Rightly mentioned, appropriate

dietary intervention would improve this patient's outcome; however, the profound dyslipidaemia and dysglycaemia required prompt medical intervention.

Indeed, the author is well placed to expound on the nutritional aspects of the metabolic disease; original research presented in two articles from his Master's thesis investigated the metabolic risk factors associated with diet and lifestyle.<sup>1,2</sup> The case patient had been counselled in detail throughout the study period on a low-carbohydrate diet, specifically to decrease his glycaemic load and improve insulin sensitivity;<sup>3</sup> however, as is commonly experienced in real-world practice, repeated advice on this evidence-based approach was not heeded to for a variety of reasons. Unsurprisingly, at a population level, non-adherence rates for even 'moderately' managing diabetes through diet and lifestyle changes are in the order of 50%.<sup>4</sup>

It is inspiring to learn of positive patients in whom type 2 diabetes has been turned around by dietary efforts alone. Science tells us this is possible for most people diagnosed with type 2 diabetes. Experience indicates that this reality is elusive to most. In spite of this, if general practitioners (GPs) do not actively address their patient's dietary and lifestyle factors, then dietitians of today will become the GPs of tomorrow, and bariatric surgeons will be their primary partners in metabolic disease management. As it is with HbA1c targets, dietary interventions ought to be individualised.<sup>5</sup> A well-executed ketogenic or intermittent fast diet is a useful adjunct that may suit many, but not all, patients with diabetes. Nevertheless, the intentional omission of nutritional factors and physical activity from this case report, not being the main focus of the report, does not discount the importance of those factors in addressing primary and secondary preventive measures of type 2 diabetes and dyslipidaemia.

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