Letters to the Editor

The impact of diabetes on treatment in general dental practice

I am disappointed that a peer-reviewed article within a journal of clinical excellence has, within it, some inaccuracies.[1] The article is unclear at times with regards to whether the authors are referring to patients with Type 1 (T1) or Type 2 (T2) Diabetes Mellitus (DM) and, more concerning, is that understanding of DM by the authors is incorrect in the opening statement of the article.

The main presentation of DM is that the undiagnosed or inadequately controlled patient is hyperglycaemic, with a blood glucose elevated over normal physiological range for a period of time, and not hypoglycaemic due to reduced transfer of glucose into muscle cells as the authors state. Indeed, it is hyperglycaemia from which the majority of diabetic complications arise. The name Diabetes Mellitus originates from ancient Greek which literally translates as 'Sweet/Honey urine' due to the excessive glucose within the body.

The glycated haemoglobin test (HbA1c) is the most appropriate measure of long term glycaemic control, with a value of over 48 mmol/mol (6.5%) being indicative of DM, although in acute situations a random venous plasma glucose of >11.1 mmol/l would be diagnostic.[2]

It is important to recognize that the diabetes-related problem of the most acute onset within general dental practice will be hypoglycaemia, a blood glucose of <4 mmol/l, in those patients either on insulin or some categories of oral hypoglycaemic drugs (namely the sulphonylureas), and dentists need to be aware of how to manage such a medical emergency when it occurs.

Other statements are incorrect: patients with T1DM do not need to restrict diet in refined carbohydrate in order to live a full and meaningful life with their condition. Indeed, often they depend on glucose to correct episodes of hypoglycaemia. The current NICE guidelines support structured education on clinically proven programmes such as 'DAFNE-Dose Adjustment For Normal Eating', teaching those with T1DM how to adjust their insulin needs for normal carbohydrate consumption, in line with the recommendation for multiple daily injection basal-bolus insulin regimens.[3,4]

References

1. Yeung V, Chandan J. The impact of diabetes on treatment in general dental practice. *Dent Update* 2018; **45**: 120–128.
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3. National Institute of Health and Care Excellence (NICE). *Type 1 Diabetes in Adults: Diagnosis and Management* [NG17]. Updated 2016. Available from **https://www.nice.org.uk/guidance/ng17/chapter/key-priorities-for-implementation#awareness-and-management-of-hypoglycaemia** (Accessed 18 February 2018).
4. DAFNE. *DAFNE: Dose Adjustment For Normal Eating*. Available from: **http://www.dafne.uk.com/** (Accessed 18 February 2018).

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Authors' response

Firstly, we would like to thank you for taking the time to read our article[1] and sharing your thoughts on the topic. We would like to clarify that the focus of the article was to share knowledge and understanding of the impact of diabetes on routine treatment in *general dental practice* with the readership. The article was not intended to explore diabetes as a condition beyond the depth of the opening introduction; nor was it the intent to explore medical emergencies such as diabetic ketoacidosis or hyperosmolar hyperglycaemic state.

We appreciate that raised blood glucose is the most important presenting clinical 'sign' of diabetes. However, in the following context 'Polyuria, polydipsia, polyphagia, along with hypoglycaemic episodes are the most common presentations of the disease',[2] we were referring to the common presenting symptoms of diabetes rather than clinical signs. We believe that patients are unlikely to present with recordings of hyperglycaemia to their general medical or dental practitioner. Thus, we consider it actually much more important for a general dental practitioner suspecting diabetes mellitus to enquire about these symptoms.

We are pleased that you drew attention to alternative methods of diagnosing diabetes other than HbA1c. The World Health Organization and Diabetes UK[3] currently recommends other methods, such as the presence of diabetic symptoms (eg polyuria, polydipsia and unexplained weight loss) plus: a random venous glucose ≥11.0 mmol/l, a fasting plasma glucose ≥7.0 mmol/l or two-hour plasma glucose concentrations ≥11.1 mmol/l two hours following an oral glucose tolerance test. However, this was not explored further as we do not believe it is relevant to the daily practice of general dental practitioners. However, we appreciate the importance of HbA1c as a measure of long-term control and its importance on surgical consent; hence, we recommended in the oral surgery section of the article to assess HbA1c prior to surgical treatment.

We appreciate the importance of the point relating to the lack of discussion regarding hypoglycaemia presenting in general dental practice. However, we did not cover specific detail relating to the diagnosis and management of medical emergencies in the main body of the text; discussing this topic (which was not the intention of the article) and the impact of raised blood sugar on routine dental treatment would not do justice to either within the provided word limit. We would direct readers to this article by Greenwood and Meechan[4] for guidance on medical emergencies presenting in the dental practice.

We apologize if certain statements were ambiguous. This article aimed to be a broad narrative review rather than an in-depth systematic review of available information. On review we