

## AUTHORS' REPLY

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Dear Sir,

We would like to thank Tin and Wiwanitkit<sup>(1)</sup> for their comments on our recent publication, "A rare haemoglobin variant (Hb Phnom Penh) manifesting as a falsely high haemoglobin A1c value on ion-exchange chromatography",<sup>(2)</sup> and the opportunity to clarify the following points.

We agree that the problem of haemoglobin (Hb) variant interference in the measurement of HbA1c is common in endemic areas with cases of haemoglobinopathy. However, our country (i.e. Taiwan) is located in East Asia, not Southeast Asia, and is therefore not located within the endemic area. Also, the estimated incidence of Hb variants in Southern Taiwan is less than 1%.<sup>(3)</sup> Therefore, it is not a problem to use HbA1c value as a glycaemic indicator in diabetic Taiwanese patients. Fructosamine, an alternative glycaemic index, has well-known limitations, as described in our report, and is used only for research in Taiwan.

In our case, HbA1c was measured via ion-exchange high-performance liquid chromatography (using the Tosoh G8 analyser), a method that is certified by the National Glycohemoglobin Standardization Program, and is comparable to the Diabetes Control and Complication Trial reference assay.<sup>(4)</sup> The aberrant peak on the chromatogram alerted our laboratory staff to the presence of an Hb variant. Based on our recent studies,<sup>(2,5)</sup> we suggest that cautious inspection of the chromatogram may help in highlighting the presence of an Hb variant. In addition, we pointed out in our report<sup>(2)</sup> that boronate affinity chromatography, an HbA1c assay that incurs the least interference from an Hb variant, is the preferred method for the measurement of HbA1c in this patient group (i.e. diabetic patients with an Hb variant). Due to the higher costs associated with liquid chromatography-mass spectrometry, and the procedure being time consuming and requiring well-trained operators, it is not used for the measurement of HbA1c in Taiwan.

Yours sincerely,

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## REFERENCES

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