It used to be so simple! The challenges of identifying diabetes type

I have been reviewing the updated version of the NICE guidance on type 1 diabetes management that was published earlier this year. There appears to be little change from the previous guidance, apart from some advice on the newer insulins and when they may be useful. I was hoping to see more mention of the latest technology, especially as we have now hit the amazing total of 50% of patients with type 1 diabetes having access to the FreeStyle Libre flash glucose monitoring system. In a previous editorial, I mentioned closed-loop technology and the opportunity for 1000 patients to access this, with the aim of gaining NICE approval for its wider accessibility in time. My local hospital was one of the sites for the closed-loop pilot project, and early experience from there is very positive indeed.

After wading through the NICE type 1 guidance, I turned to the recent ADA/EASD Consensus Report on the same subject (Holt et al, 2021). This was launched at the EASD annual meeting, as detailed in this issue of the *Journal*, and I have to say it makes a very easy read – incredibly well laid out and easy to follow.

The section on diagnosis really resonates with me as I have recognised of late that, in my years of diabetes specialism, actually identifying the type of diabetes on presentation has become increasingly difficult. The rise of type 2 diabetes in younger people and the vastly increasing prevalence of type 2 diabetes across the age groups makes the identification of type 1 in adults ever more challenging. Furthermore, along with type 1 and type 2 diabetes, we also have a greater understanding of monogenic diabetes, type 3c diabetes and other forms of the condition.

We used to be able to confidently say that if there was ketoacidosis at presentation, type 1 diabetes was the diagnosis, but this is no longer the case; ketoacidosis can also be seen in ketosis-prone type 2 diabetes. Equally, type 1 diabetes may be given as the diagnosis when extreme symptoms suddenly develop, only for the underlying cause to be recognised later as pancreatic cancer. Getting the diagnosis right is vitally important for many reasons, but we have to accept that it may take time for the definitive diagnosis to be made. I hang on the words I was once told, countless years ago, as I started my diabetes career: "Treat what you see". I have often since recognised that this was such a sound piece of advice.

The actual diagnosis can be made in time now that we have access to antibody tests such as glutamic acid decarboxylase (GAD), islet tyrosine phosphatase 2 (IA2) and zinc transporter 8 (ZnT8). Along with these antibody tests, we are increasingly using C-peptide measurement as an indicator of endogenous insulin production, low levels of which can again signal the likelihood of type 1 diabetes. The use of these tests are increasing and, although they are not always definitive, they do offer an indicator of diabetes type.

The ADA/EASD flow chart for use of these tests in suspected type 1 diabetes (*Figure 1*, overleaf) is very useful, and I am sure it will become commonplace on our clinic and surgery walls, desktops and so on. I recommend you read the complete Consensus Report whatever your working practice within diabetes – even if you work solely with people with type 2 diabetes, the diagnosis section alone could really offer that lightbulb moment for all those cases that just didn't make sense!

The authors of the ADA/EASD statement have acknowledged Dr Angus Jones, at the University of Exeter, for his invaluable contribution to the diagnosis section of the report. I have the pleasure of not only having heard him speak on the subject but also to know him professionally. So I would like to add my acknowledgement to the instrumental work Dr Jones has undertaken in this area to help us all in the challenge of identifying diabetes type. ■

Holt RIG, DeVries JH, Hess-Fischl A et al (2021) The management of type 1 diabetes in adults. A consensus report by the American Diabetes Association (ADA) and the European Association for the Study of Diabetes (EASD). *Diabetologia* 30 Sep [Epub ahead of print]. https://doi.org/10.1007/s00125-021-05568-3

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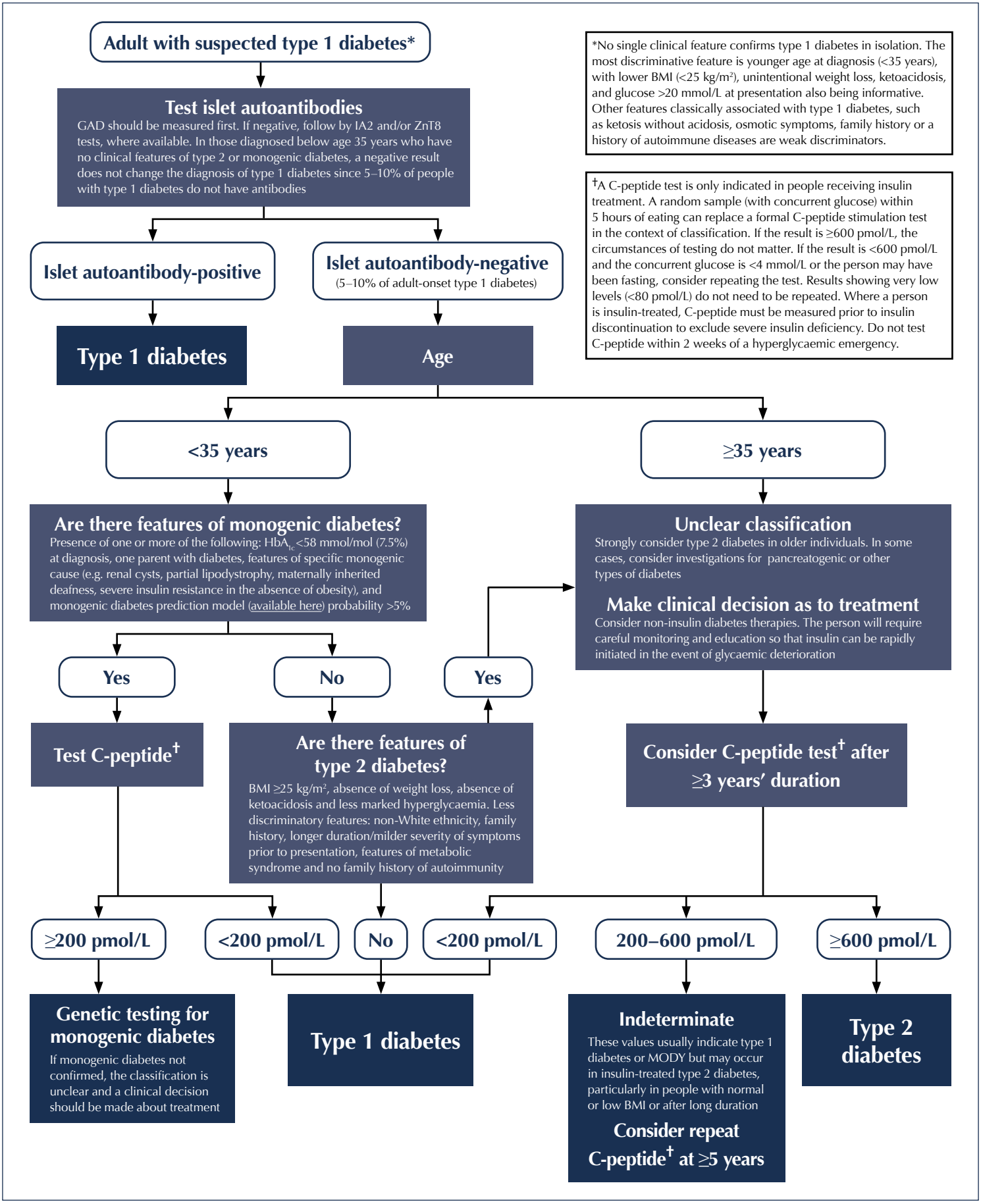

Figure 1. ADA/EASD flow chart for investigation of suspected type 1 diabetes in newly diagnosed adults (based on data from White European populations). Adapted from Holt et al (2021).

GAD=glutamic acid decarboxylase; IA2= islet tyrosine phosphatase 2; MODY=maturity-onset diabetes of the young; ZnT8= zinc transporter 8.